Issue 50
PS
1956 Series
THE PREVENTIVE MAINTENAN
MONTH_

'Twas the night before Christmas and under the tree
There were toys disassembled and parts scattered free.
The deadline was jammed with a boom-dangling crane.
A toy tank without tracks and a fork-lift was lame.

With H-hour approaching, the boom ready to fall,
A three-rocker sergeant got the crew on the ball!
"Where's the parts list and manuals?" The room shook with his roar
But order returned to the mess on the floor.

For the old sergeant knew, and would bet his last dime
That but one thing would make those toys function on time.
It was MAINTENANCE, pure and simple, the same sort of stuff
That pulls his boys through when the going gets rough.

Get the right parts, the tools and the lastest know-how
And your engines will run like a mess-hound for chow.
On toys or on big ones, the story's the same - - -
If the upkeep is right then the running is tame."

Then he glanced at the tree, dressed the tinsel in line
And stopped by the door with a laugh deep and fine.
Then they heard him exclaim as he walked out of sight - - -

"Merry Ehristmas to all- - -

And Lube Them Toys Just Right"

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The help you need is—

AS NEAR AS YOUR TELEPHONE

Here's the way to get better maintenance on your unit's equipment: When you have some question or problem you can't answer or solve yourself, get help from Ordnance, Engineers, QM, Chemical or your other technical services —right there in your Division or on your Post. It's easy—just pick up the phone and call the technical people concerned with the equipment you want help on. They'll also help you clarify TM's, TB's, SB's and AR's. So—ring 'em up. They're there to help you keep your equipment better maintained. A phone call today may prevent a deadline tomorrow.

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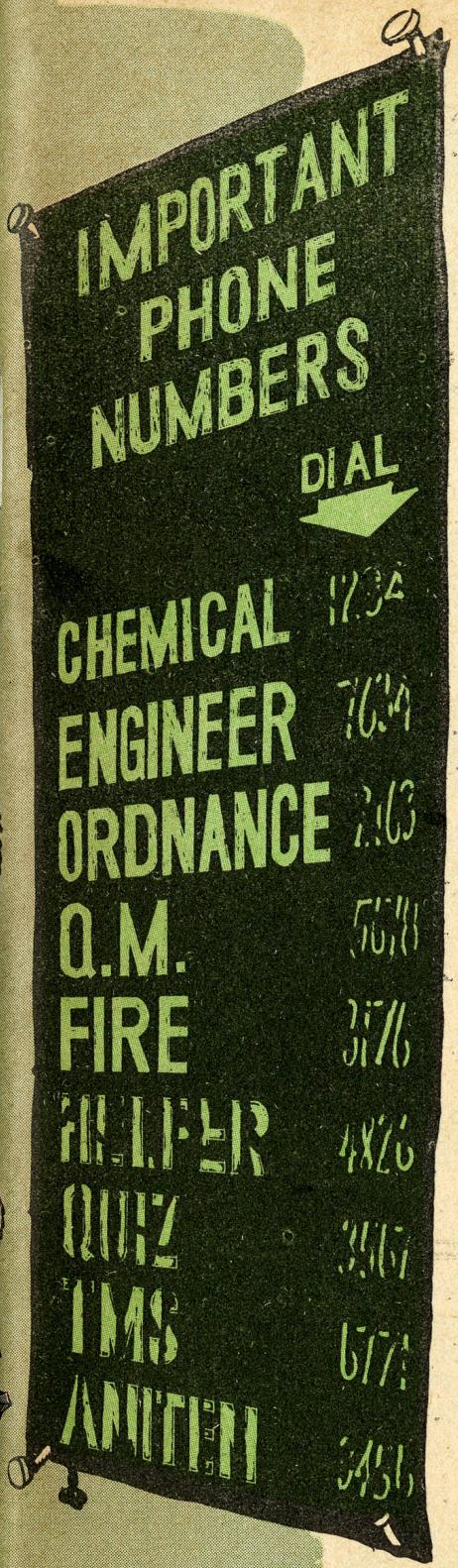

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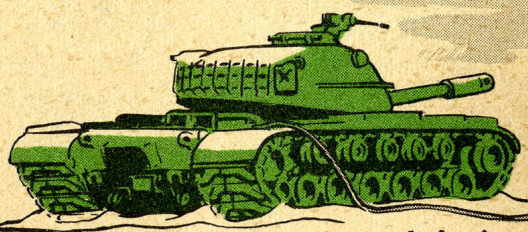
SLAVING SLANTS

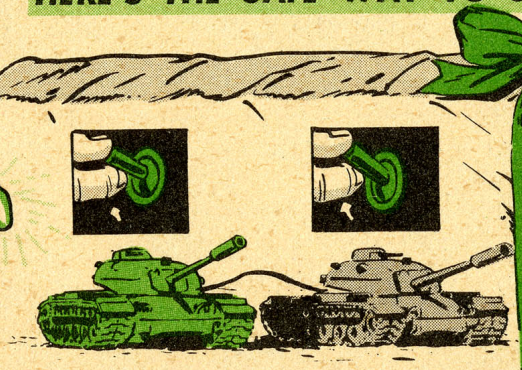


Ever notice burnt-out bulbs piling up around your tank yard during a cold snap? That's not just J. Frost hexing filaments, Friend. More likely it's guys neglecting a couple of the finer points of slave starting.

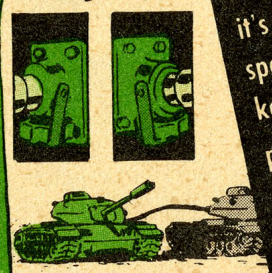
Running a vehicle with no batteries in the circuit (it happens for a short time in the slaving procedure) you're apt to get a big surge in main engine generator voltage—unless you're mighty careful. Can go as high as 50 or 60 volts—if somebody guns the engine.

And just think what that kind of a jolt can do to filaments.

HERE'S THE SAFE WAY TO SLAVE A MEDIUM TANK:

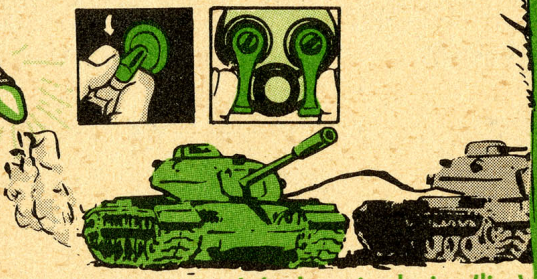


1. Make sure the master relay switch is OFF —in both vehicles.

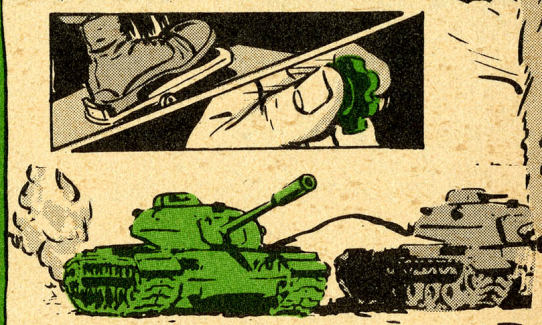


2. Hook up the slave cable—to both vehicles.

Note—if the live (slaving) tank is running at the time, make sure it's running no faster than **low idle** speed—about **650 RPM.** This'll keep your generator output low as possible, protect your filaments, and prevent a nasty—and dangerous—arc when you disconnect the cable. OK?



3. Turn master switch back on in slaving (live) tank, and start its engine, as you normally do.



4. Adjust engine speed to about 1400 RPM.

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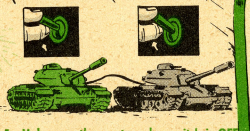

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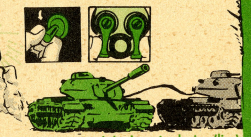

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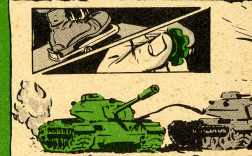

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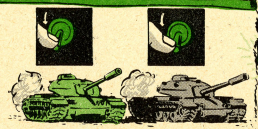
Note

The crucial point, unless something like fireworks is speeding up the procedure, is not to go any further until that slave tank is warmed up and running smooth. **Then** you can ease 'er down to low idle for a moment and get that cable disconnected without arcing, or blowing filaments.

5. Now start the slave tank, its master switch is still **OFF**—remember?

6. With slaving tank's engine either stopped or at low idle, turn its master switch **OFF.** (Slave tank is also idling with master switch **OFF.** Right?)

7. Remove cable plug from each tank.



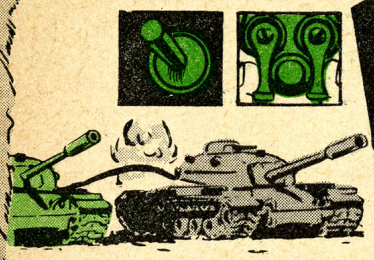
8. Turn master switch in both tanks back **ON**—for normal operation **and** to start batteries in slave tank charging.

And keep this in mind all along. Once you idle the engine (or engines) and have the master switches **OFF,** the sooner you can get that cable out and the master switches back on—the better. For at least two very good reasons: (1) It cuts down the chances of somebody **gunning** the engine while there's no load (batteries) in the circuit— and slaughtering those filaments; (2) It's just no good for an engine to run at low idle any longer than necessary—fouls your plugs in a hurry.

So . . . shake a leg, hey? You'll save a lotta bulbs and bother.

This procedure also applies to the light tank family, with one exception—the M42 Self-Propelled Twin 40. It has its master relay between the slave receptacle and the other circuits. So, unless the master switch is **ON** and the relay closed, you can't get outside current to the starter. Which means that you have to slave start an M42 with its master relay switch **ON. But**—you'll still want to flip it **OFF** (and idle the engine) to prevent an arc when y'disconnect the cable.

ALSO NOTE—Some M46 tanks have a 3-position master relay switch. When starting one of those babies, first turn the switch to **"GEN"** and let it run until the batteries are charged to at least 18½ volts. (That's what it takes to hold the relay closed.) Then switch to **"BATT."**



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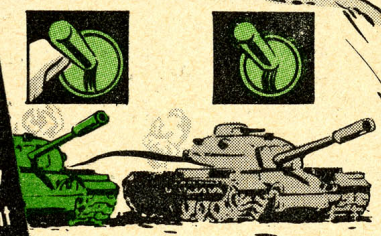

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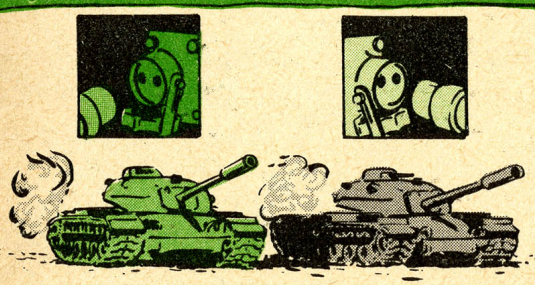

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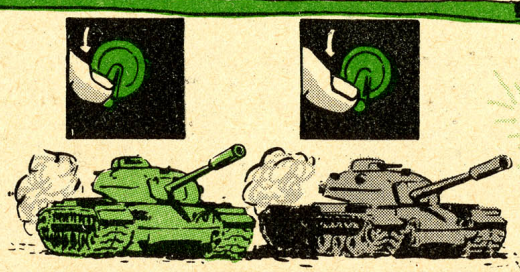

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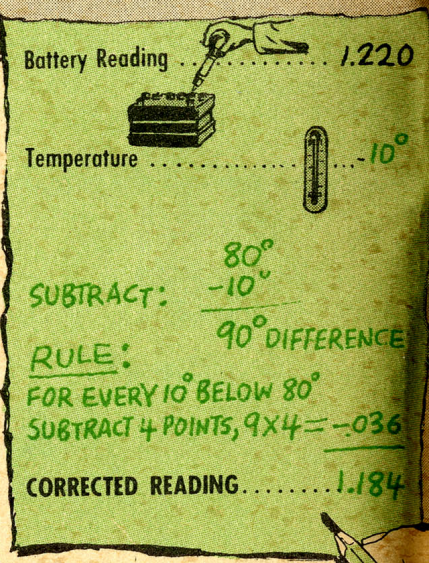
BATTERY CARE IN COLD WEATHER

(Or—How to thumb your nose at Jack Frost)

Now that cold weather's here, let's take a look at how your batteries behave on frosty days and what you've got to do to keep 'em healthy.

First of all, be sure to correct your hydrometer readings for temperature. All standard hydrometer figures were established for a temperature of 80° F. To correct them for different temperatures you **add** 4 gravity points for each 10 degrees above 80°, and you **subtract** 4 gravity points for each 10 degrees below 80°.

Your Ordnance hydrometer, Ord Stock No. 18-H-1241-20, has a thermometer and a temperature correction table built right into it, so you won't have any trouble getting the right answer.

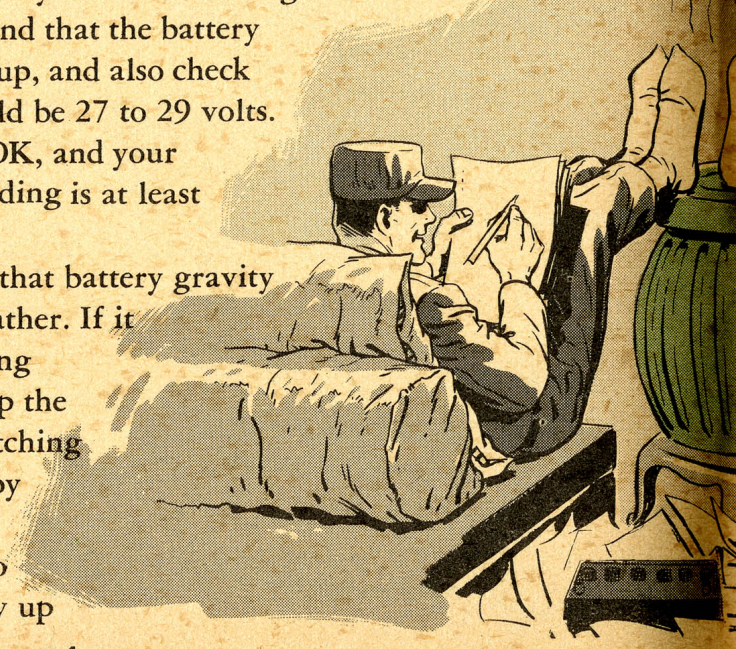


Let's see how this works with a battery reading 1.220 on a day that's 10° below 0° (Brrrrrrr!!) Ten below is 90 degrees below 80°, so you have to subtract 36 points (9 times 4). Subtract 36 from 1.220 and you get only 1.184. Not only does this mean that your battery is less than 25% charged, it also means that it's getting mighty close to its freezing point.

The first thing to do is check your hydrometer reading and be sure that it is at or above 1.250, **corrected.** If you find that the battery is below 1.250 corrected, charge it up, and also check your generator output, which should be 27 to 29 volts.

If your generator's putting out OK, and your battery's **corrected** hydrometer reading is at least 1.250 you're in pretty good shape.

Remember, you've got to watch that battery gravity like a hawk all during the cold weather. If it proves that your vehicle's not getting enough miles between starts to keep the battery up, you'll have to keep switching batteries and having 'em charged by the shop men. Or maybe you can get your truck rotated around onto some long hauls to keep the battery up



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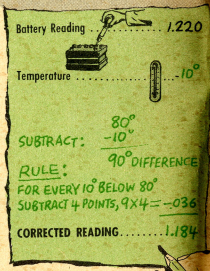

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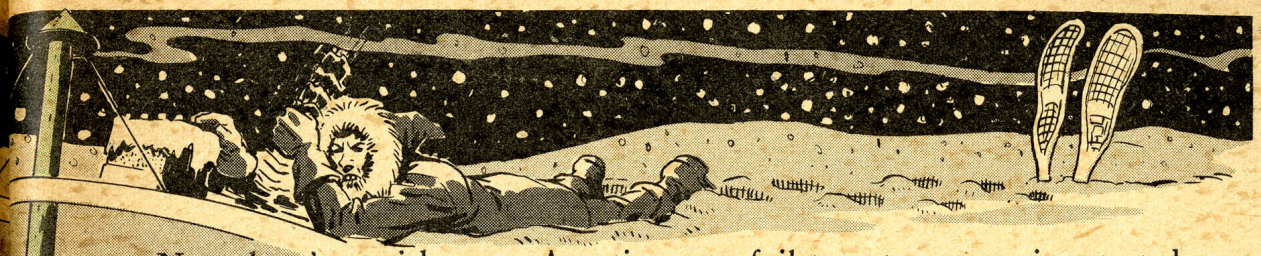
Now, here's a tricky one. Any time you fail to get your engine started on a real cold day, or if you have to crank a long time and then go on only a short run, you're in danger of getting your battery frozen. This is because the chemical reaction in the battery which produces the electric current absorbs some of the "sulphate radical" (the SO_4) from the electrolyte, and leaves water. This is how come the gravity falls on a discharged battery. But, this reaction only takes place on the surface of the plates. So unless the battery is charged for a while by a running engine, which causes the electrolyte to bubble around and mix thoroughly, you can have free water freezing on the surface of the plates, even though the battery actually has enough charge to be safe, if the electrolyte was well mixed. (Sulphuric acid in the solution acts as an anti-freeze.)

So, if you fail to start your truck, or if you can't get a good long run after a cold start, you'd better take the batteries into a warm place or put 'em on charge for a while, or they may freeze up on you.

Another thing. The colder the battery gets, the less of its available charge you can get out of it. So when possible it's a darn good idea to take your batteries inside when your truck has to sit out on a real cold night. The warm battery will have a much better chance of starting your cold engine. And when a battery has stood out all night and won't start the vehicle, try warming it up before you give up. Never get it near an open flame, and never get it any hotter than you can comfortably put your hand on.

All this business about warming your batteries and storing them for the night in a warm place only applies if the temperature's well below zero. A well-charged battery should start a well-tuned truck without trouble down to at least 10 below zero without special treatment. Below that, watch it.

If you want the whole rundown on this, get TM 9-2857. This is an oldie, written before the 24-volt system was adopted, but the fundamentals, particularly Section IX on page 35, "Operation Under Unusual Conditions," still apply.



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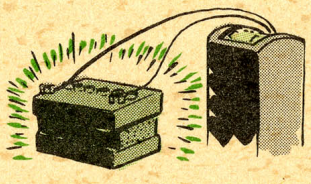

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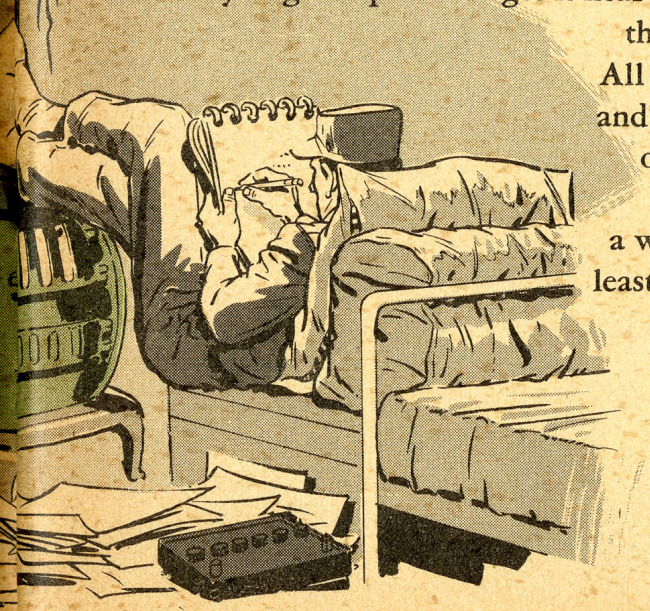
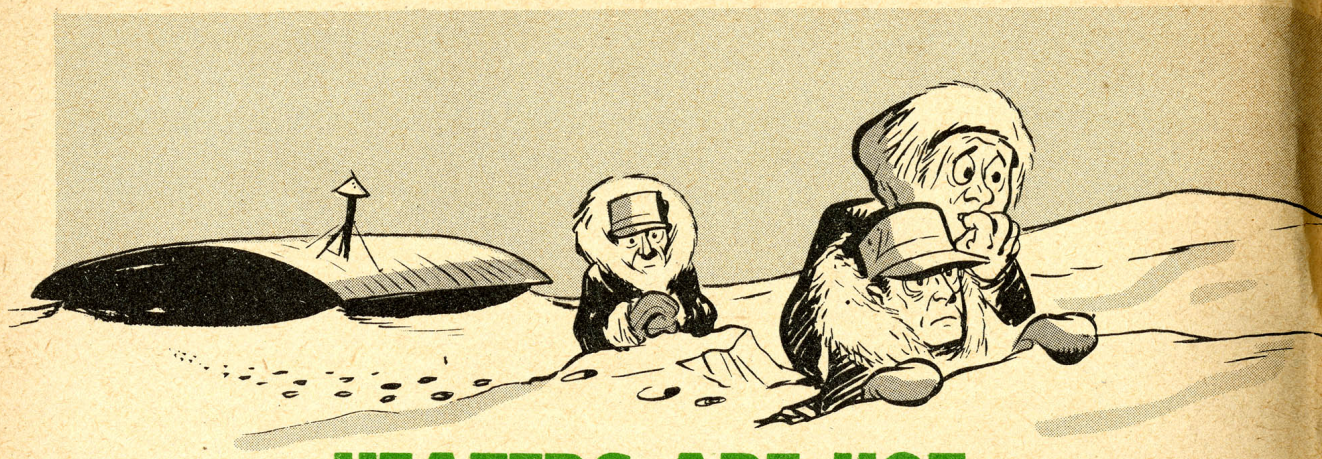


All this business about warming your batteries and storing them for the night in a warm place only applies if the temperature's well below zero. A well-charged battery should start a well-tuned truck without trouble down to at least 10 below zero without special treatment. Below that, watch it.

If you want the whole rundown on this, get TM 9-2857. This is an oldie, written before the 24-volt system was adopted, but the fundamentals, particularly Section IX on page 35, "Operation Under Unusual Conditions," still apply.

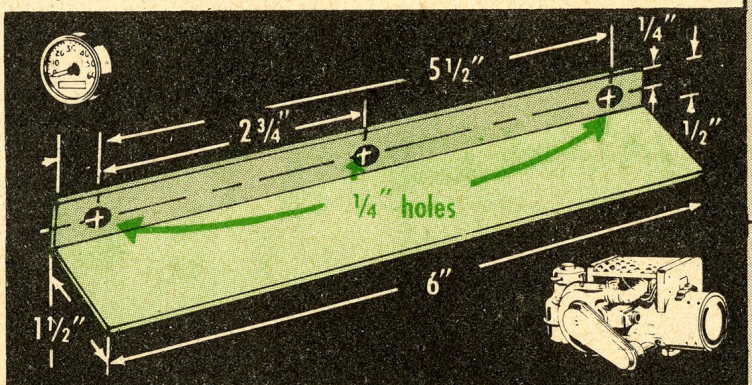


HEATERS ARE HOT

That South-Wind heater Model 978 such as you use in your Jeeps is really a hot-shot. It puts out about 315 degrees F. at the adapter, 224 degrees at the passenger side, and throws up to 205 degrees in the speedometer area.

Which is fine for the health and morale of your favorite brass monkey, but it's a little hard on both windshields and speedometer heads. It seems that the dials on the Stewart Warner speedometer sorta melt a bit at that 205 degree heat, and the numbers get sticky. While at the same time, turning that sort of heat onto the inside of a windshield which has been up all night in sub-zero weather can cause it to go all to pieces when it heats up.

So, here's what you can do. Starting with the speedometer head, first check your installation to be sure it was made right (See TM 9-8662). Then if you are having melting dials, make either a deflector to throw the heat away from your speedometer, or take a piece of sheet metal and blank out part of the outlet hole in the heat duct nearest your speedometer.



Attach deflector to driver's side of diverter assembly—replacing the three sheet metal screws with three #10x1/2 screws with lock washers and nuts.

NOW—ABOUT THOSE CRACKED WINDSHIELDS.

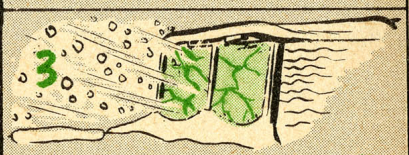
1

Let cab warm up with defroster damper **off.**

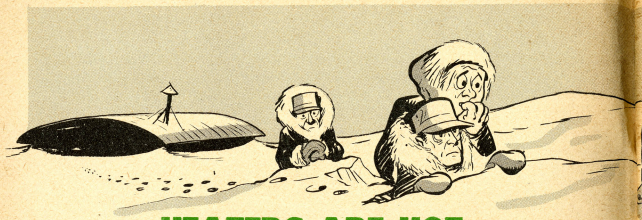
2

Kick defroster control **on-off** for several short periods.

3



Let windshield warm gradually. This evens expansion strains, helps prevent cracks.



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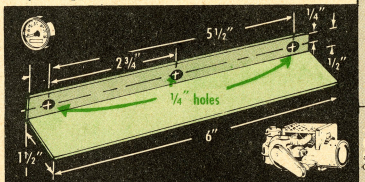


Attach deflector to driver's side of diverter assembly—replacing the three sheet metal screws with three #10x½ screws with lock washers and nuts.

NOW—ABOUT THOSE CRACKED WINDSHIELDS.

1 OFF

Let cab warm up with defroster damper **off.**

2 ON

Kick defroster control **on-off** for several short periods.

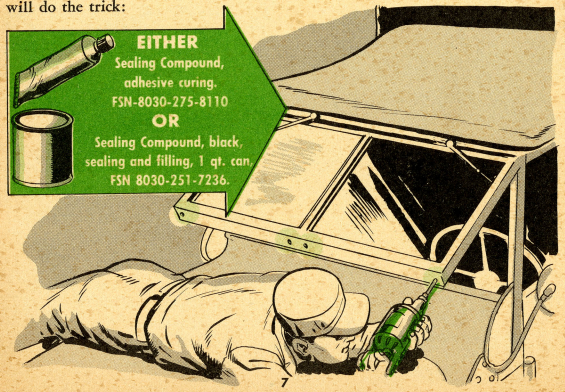
3

Let windshield warm gradually. This evens expansion strains, helps prevent cracks.

LET IT FLOW

Now's a good time to get out the drill and fix the windshield frames on your M-series trucks so's the frames won't load up with water. Cold weather means the water freezes. And frozen water could mean busted frames. The water builds up because of condensation and maybe from rain that makes its way into the top of the frame through the windshield wiper motor holes. The idea is to give the water a way to get out of the frame. And, at the same time, you slow down rusting of the inside of the frame.

You do it by drilling four ⅛-in holes—one in the bottom corners of each assembly. While you're at it . . . on windshields that have their wiper motors mounted on top, seal the holes around the motor. Either of these "pluggers" will do the trick:



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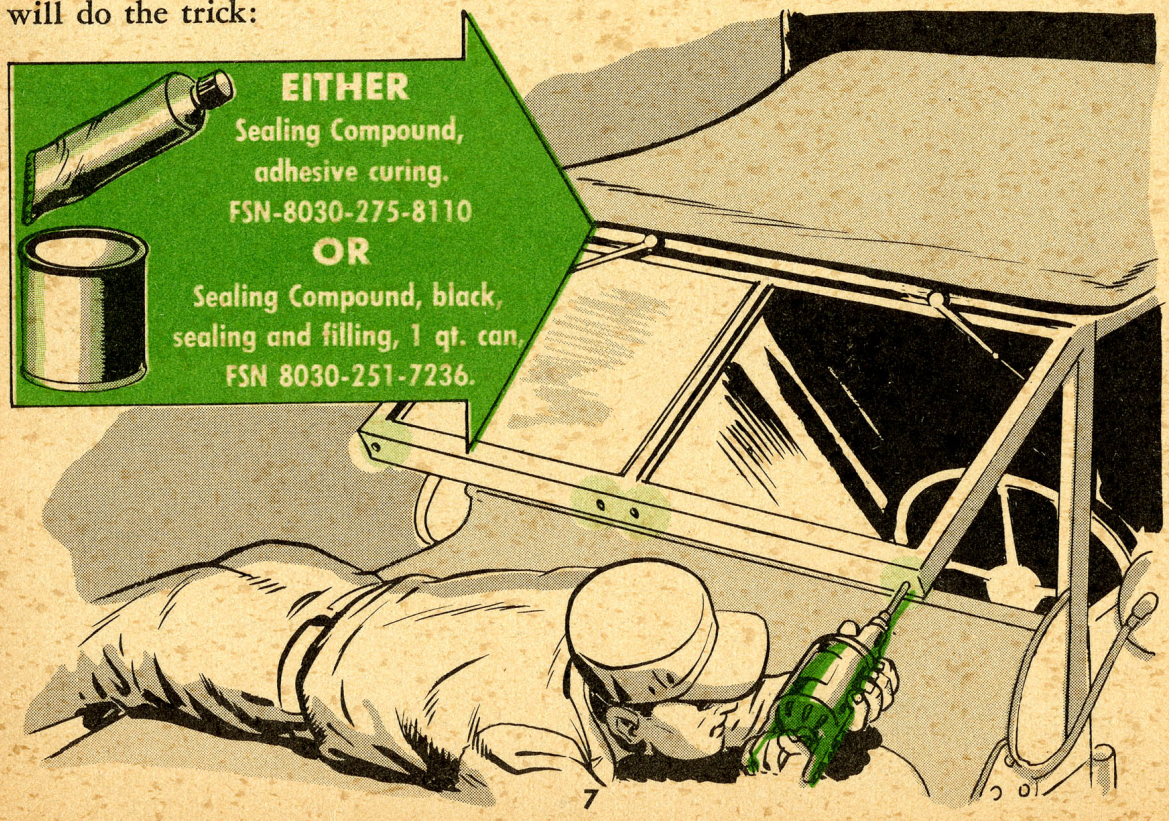
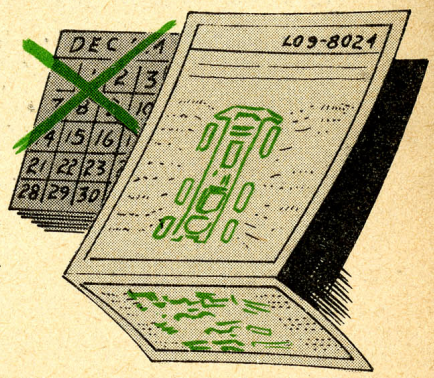


Say Hel-Lo to Ol' Man Winter with—

COLD WEATHER LUBES

Wow . . . the year went fast. It's winter again.

For some guys, like those in the Sunny South, USA, it doesn't mean much more than ripping a couple pages off the calendar. But, it's a different story for the Joes who are in places like Uncle Sam's mid-section, where the mercury very often has a battle trying to keep above the freezing mark.



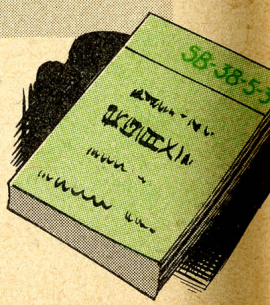
In those spots where the mercury gets to feeling mighty low at times, you've gotta switch from the lubes you've been using.

You want to remember, tho, you don't go by the calendar and figure you'll change over to winter lubes on the first day of winter. You do the lubing according to your LO, which is made up for "expected temperatures."

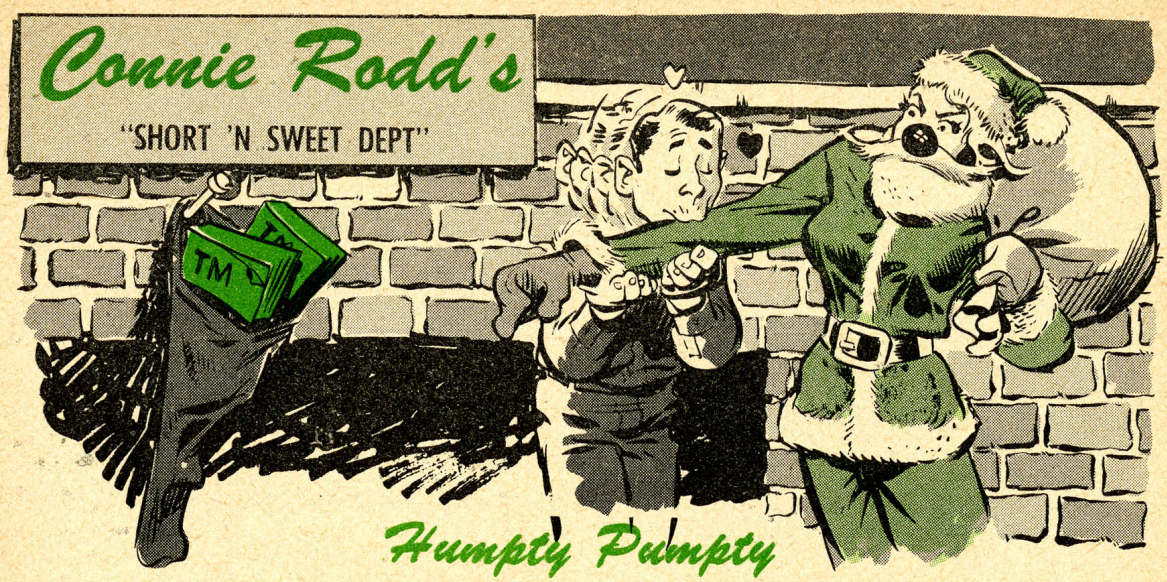
Say your crankcase contains OE 30 and you're in a place where your November temperature is in the 40-degree range. But, you know the mercury is expected to take a nose dive soon, so switch to OE 10.

On the other hand . . . if the cold weather is late in coming, hold off on the lube change for a while. But, weather is real changeable, so be ready.

WHEN IN:	TEMPERATURES	USE THESE LUBES	BEAR IN MIND
The **FRIDGID NORTH:** Alaska, No. Canada, Etc.	Extreme Cold **—10° to —65°F**	OES, GOS, HBA, OHA, GAA, PL (Special)	Know What TM 9-2855 Has to Say
The **COLD NORTH** Minn., Mont., Etc.	Cold **0° to —20°F**	OES, GOS, HBA, OHA, GAA, PL (Special)	Use Same Lubes As Frigid North
The **CHANGEABLE MID-SECTION:** Kansas, Ohio, New Jersey	Cold to Chilly **—10° to +40°F**	OE 10, GO 75, HB, OHA, GAA PL (Special)	Beat Cold Weather To Punch With Lubes
The **WARM SOUTH** So. Calif., Fla., La.	Warm **+32° and up**	OE 30 or 50, GO 90, HB, OHA, GAA, PL (Med)	Shouldn't Need Cold Weather Lubes

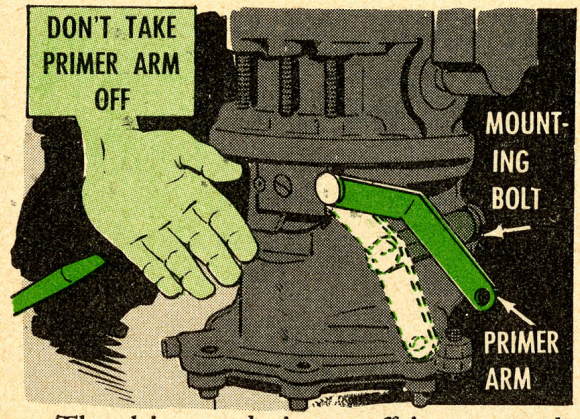


Another thing to remember . . . when in doubt, use the next lighter weight lube. The lubes—stock numbers and all—are listed in SB-38-5-3 (8 Mar 56). So you'll know what lubes to use when . . . wherever you are . . . raise your eyes or lower the magazine.

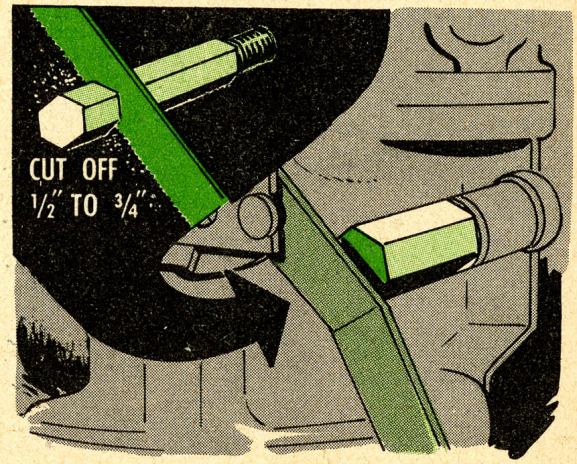


When you go to put your new AC fuel pump (Ord Stock No. G758-8720569) on your M38 Jeep, you'll find that its primer arm gets knocked up by the right-hand mounting bolt and you can't get the pump on.

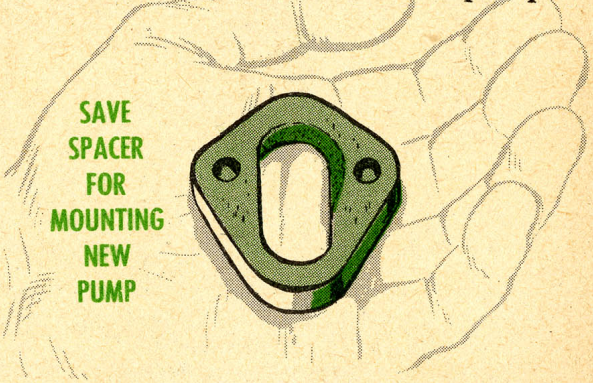
The first thought is to take the primer arm off—but **don't do it.** Two gadgets inside that pump will fall out of place and you won't be able to put them together again. If the pump is mounted and run in this condition, those gadgets will chew its intestines to pieces.



The thing to do is cut off just enough of that mounting bolt so the pump will fit on its mounts without taking the arm off. You'll have to cut off maybe about ½ to ¾ of an inch. You won't have this trouble with the M38A1 Jeep, because it already has a short bolt.



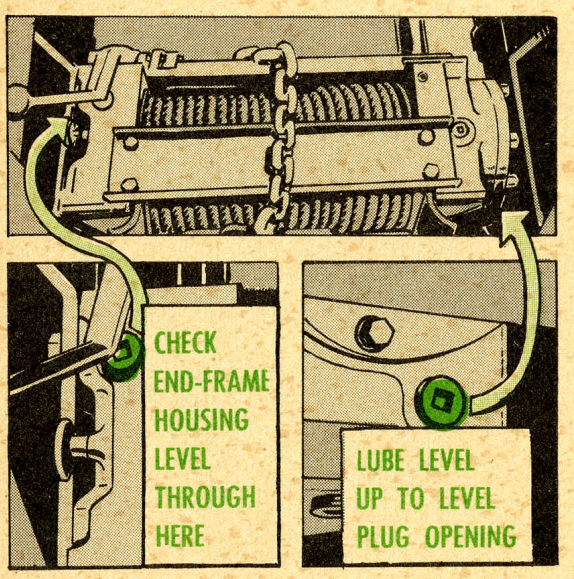
One more thing. When you take your old pump off to mount the new one, save the spacer—you'll need it, 'cause a spacer isn't supplied with the new pump.



Winch Lube Notes

There are a couple of notes you G749 2½-ton truckers ought to make in your copies of TM 9-8024 (Oct 55). Put both on page 564.

The first one has to do with checking the level of the winch worm housing (para 315 c [1]).It should read: "Lubricant level must be up to level plug opening," instead of up to filler plug opening like it now says.

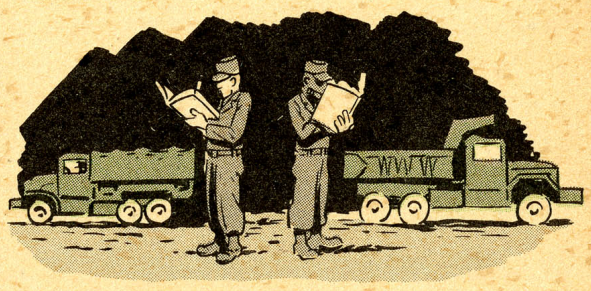


The second note is about checking the level of the winch end-frame housing (para 315 d [1]). It should read: "Proper lubricant level is 6⅞-inches below top of housing." The 7⅝-in figure is going out.

Tow Troubles

From now on, and you can jot this in your copy of TM 9-8024, when you go to tow that G749 2½-ton truck backwards with all its wheels on the ground, put your transfer lever into **DOWN NEUTRAL** position and your transmission shift control lever into **REVERSE.** You'll only tow in this position for a short distance.

While on this towing deal, seems that some trucks are being chewed up, because drivers aren't checking out their TM's on how to tow when their truck has to be lugged by another truck. It could lead to all kinds of damage and headaches, so before towing any vehicle (forward or backward), why not check your TM first on the right way to go about it?



Oops...

Hold it a minute, you 5-ton dump truck artists. There's been a slight misprint in para 313 of TM 9-8028 (June 55), which may cause you some confusion when you go to adjust the control linkage of your M51.

Para a (4) of 313 says, "Pull trunnion...downward as far as it will go (to place control valve spool in **POWER UP** position...)."

Actually, if you pull the trunnion downward as far as she'll go, your control valve spool will be in **NEUTRAL** position.

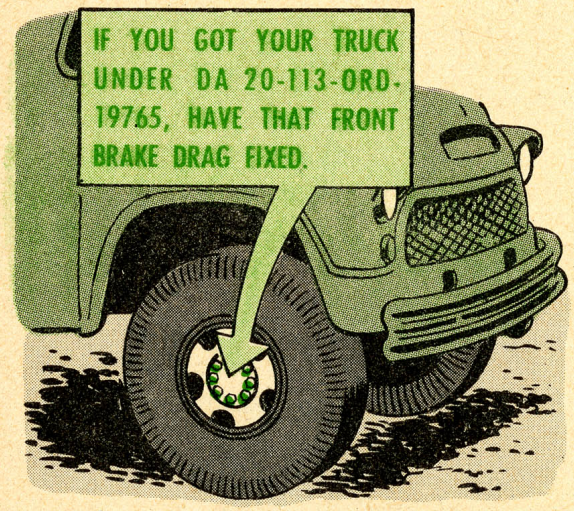
So, just make a note of this in your TM: Push trunnion **upward** as far as it will go (to place control valve spool in **POWER UP** position).

End To Drum Beaters

Certain 2½-ton, 4x2, GMC Model 424 trucks have hit the field with brake drum trouble.

It's the brake drums on the vehicles procured under Contract DA 20-113-Ord-19765 that have been acting up.

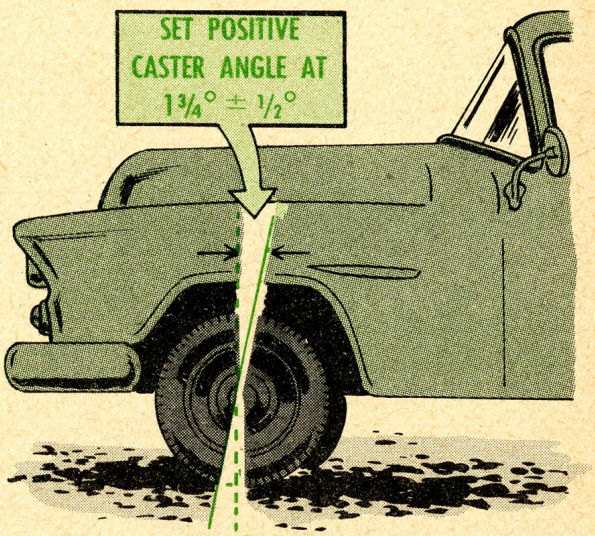
When the front wheel bearings on these trucks are properly adjusted, it's possible for the outer edge of the front brake shoe lining to bottom or hit the web section of the brake drum. You can tell something's wrong because the brakes drag on the brake drum when you're checking the front wheel-bearing adjustment.



Ordnance and the manufacturer got together and it was decided that three parts would take care of a fix...a bearing spacer, oil seal assembly and oil seal spacer.

If you have one of the trucks, tell your Ordnance officer. He'll contact the nearest GMC zone service manager and you'll soon have the parts and instructions for using 'em. Ordnance distribution depots also will lend a hand if needed.

Caster Clues

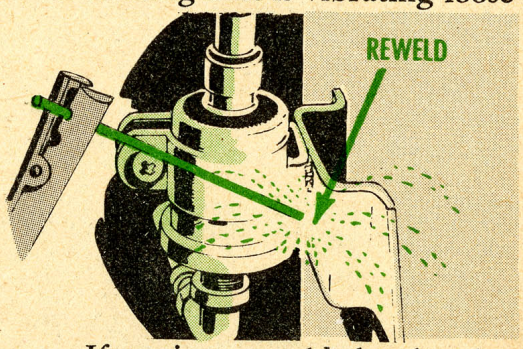


Having trouble with your ½-ton Chevvy pickup wandering all over the road and refusing to come out of a turn? If so, better have that steering checked.

Seems there are a few of these trucks around with their positive caster angle set at one degree. The manufacturer recommends that this spec be 1¾ degrees, plus or minus ½ degree.

Sending Unit Fix

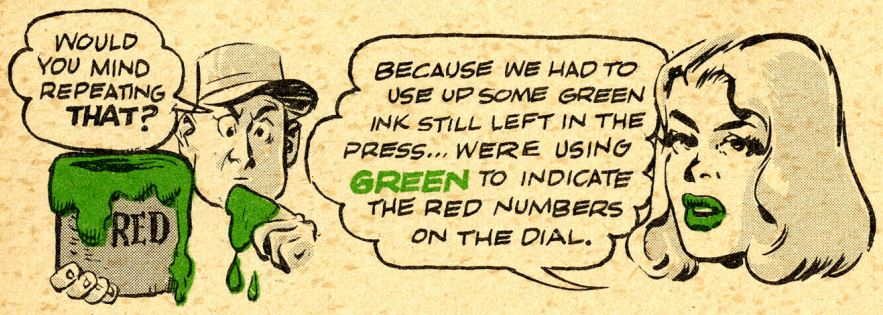
You may find that the support bracket assembly (Ord Stock No. G758-8329686) holding your M38A1 oil pressure sending unit is vibrating loose

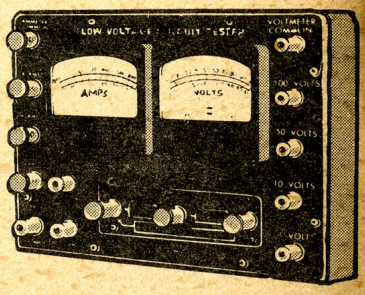


on you. If so, just reweld that bracket to the assembly's back.

HERE'S HOW TO READ YOUR

LOW-VOLTAGE CIRCUIT TESTER



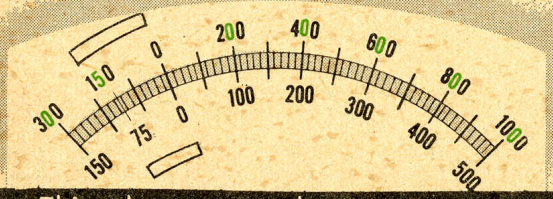


Y'know how it is: sometimes too much information is as bad as too little. Seems that some men get thrown for a loss by the multiple scales on the voltmeter and ammeter of the low-voltage circuit tester (17-T-5575-50).

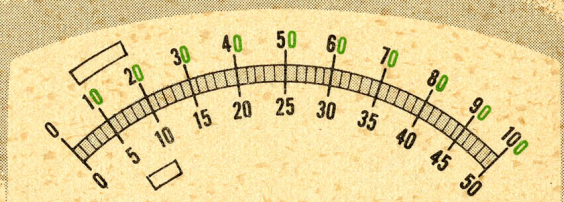
It's a little confusin' at that, what with black figures and red figures and all. But once you catch on, it's real simple.

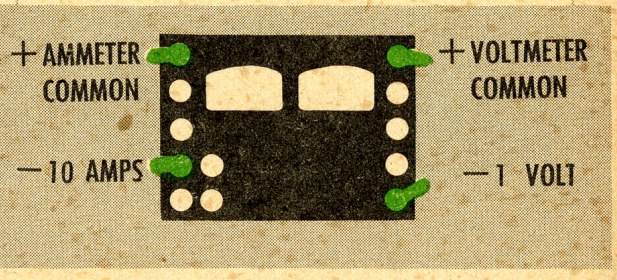
Let's go through it, step by step, one scale at a time. The pictures below will show you what scale to read for each hookup of the ammeter or the voltmeter.

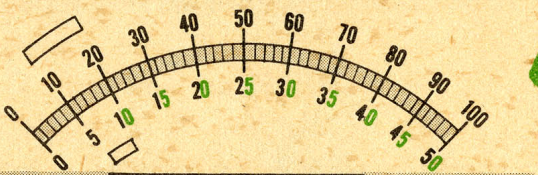
You use the left and right sides of your tester separately—**Left** for amperage, **Right** for voltage.

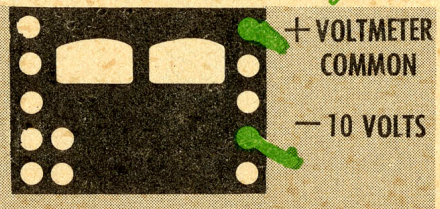


This shows you the ammeter connected for the 10-ampere scale, and the voltmeter on the one-volt scale. In this case you read the first black figure on the top scale of the meter you're using. Remember that the voltmeter is now giving you **tenths** of a volt, as indicated by the red decimal points.







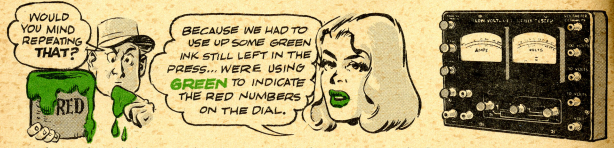


Here the voltmeter is on the 10-volt scale. You read the same figures, first black on the top scales, but the voltmeter is now reading in **volts;** disregard the decimal point.

These three binding posts are connected to fixed resistors and used only in making resistance substitution tests of generator regulators. They don't affect the dials at all, so forget 'em.

HERE'S HOW TO READ YOUR

LOW-VOLTAGE CIRCUIT TESTER



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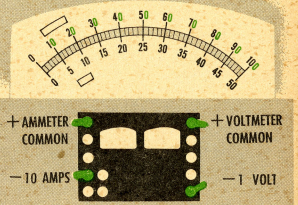

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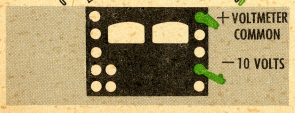

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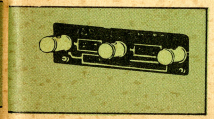
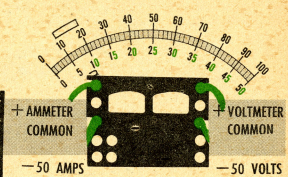
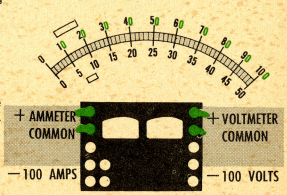
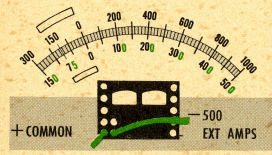


Here you see the ammeter on the 50-ampere scale, the voltmeter on the 50-volt scale. In this case you read the black figures on the bottom scale of the meter you're using.

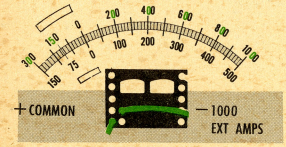


Here the ammeter on the 100-ampere scale, the voltmeter on the 100-volt scale. You read the first black and the red numbers on the top scale of the meters like this: 20 equals 20 volts, 200 equals 20 amperes.

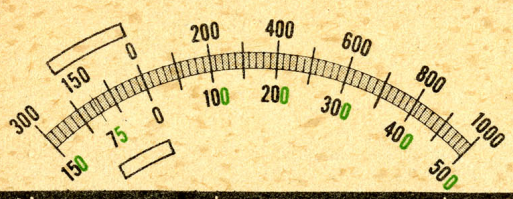




In this one, you see the ammeter on the 500-ampere scale. The light leads from the external shunt are plugged in at the bottom jacks, and you read the black **and** red figures on the bottom scale. Like this: 500 equals 500 amperes.



Here you have the ammeter on the 1000-amp scale. The leads are plugged into the common jack and the 1000 jack as shown, you read **all** the figures on the top scale of the ammeter, black, red and black. Like this: 400 equals 400 amperes.



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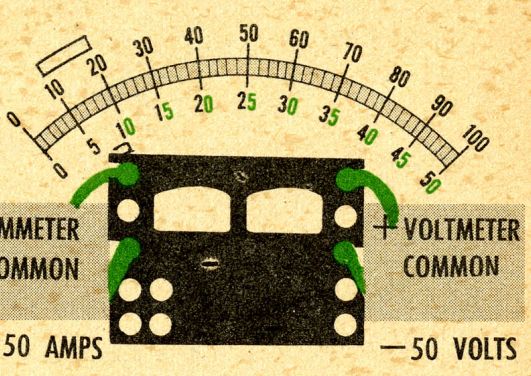

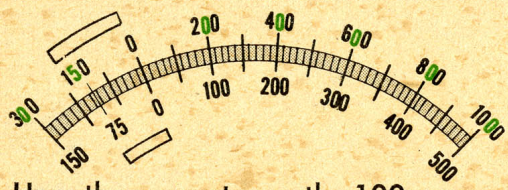

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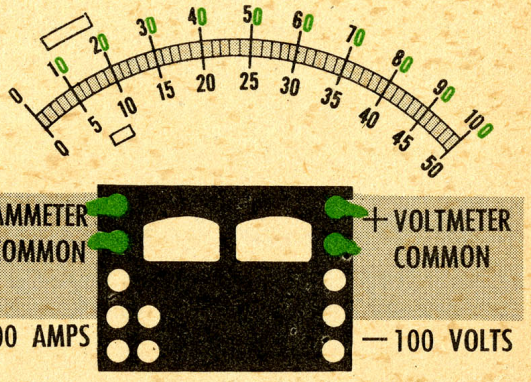

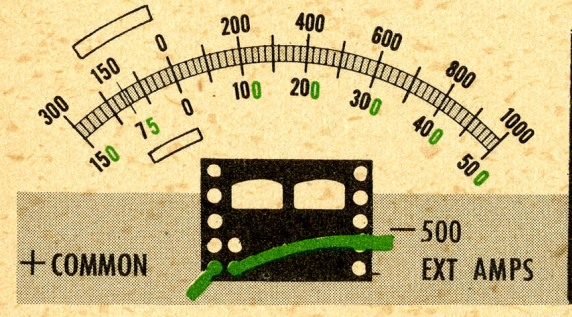

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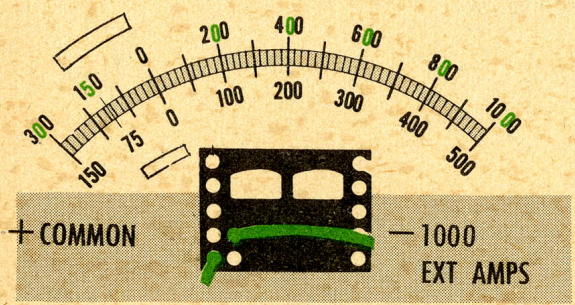

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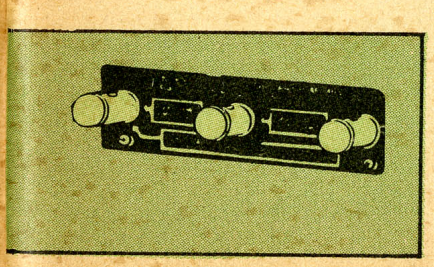
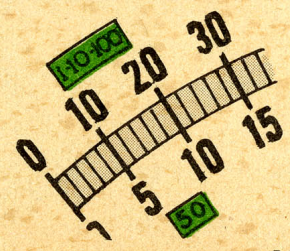
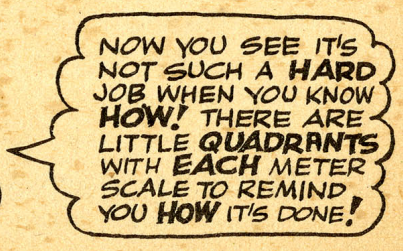
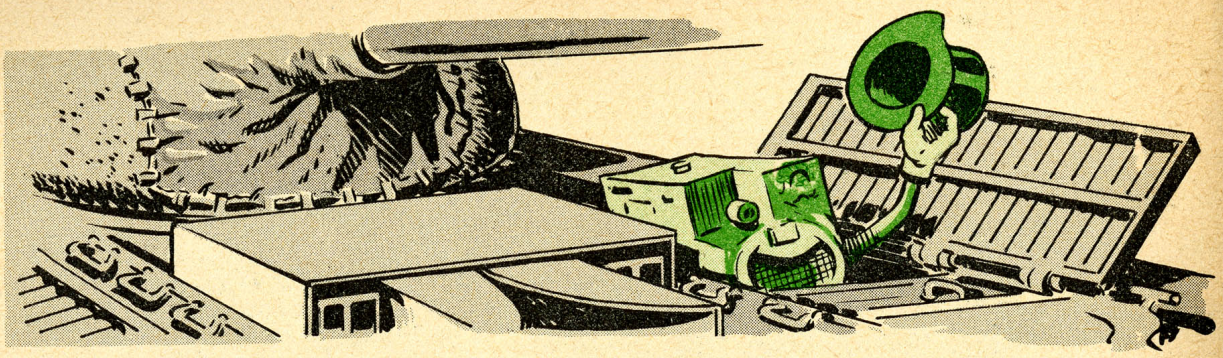






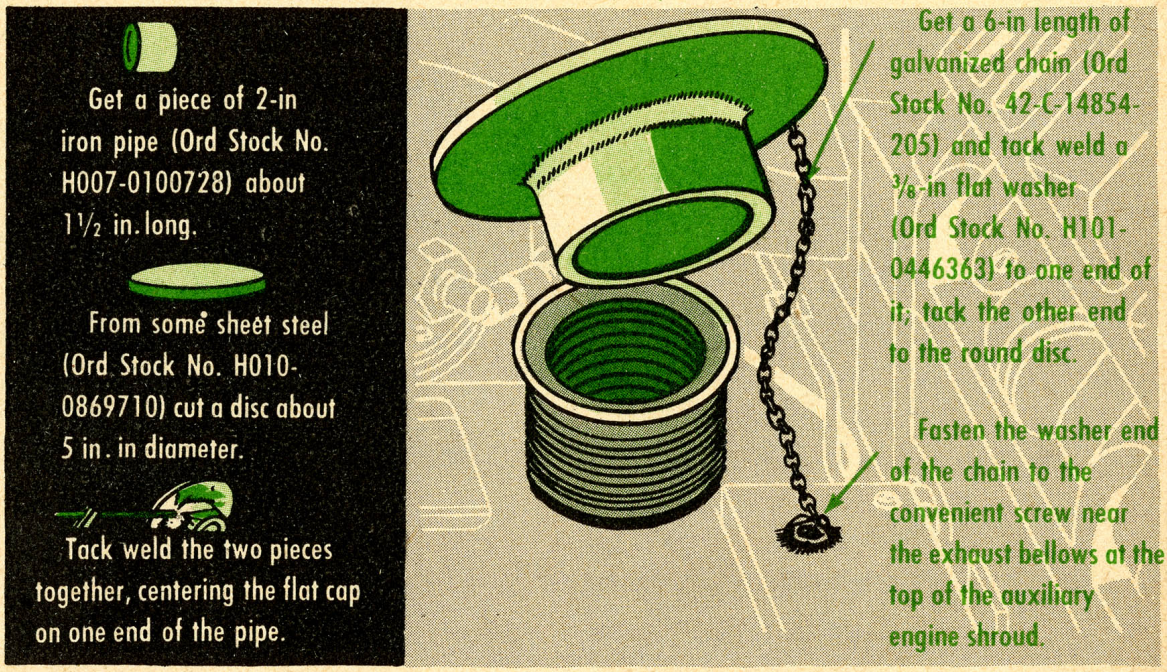


A SAFETY CAP FOR LI'L JOE

Ever notice how exposed your M48 tank's auxiliary engine is when the grill doors are open? Looks like Li'l Joe's just sitting there with his yap open, waiting to catch it in the puss.

Which is just what's been happening in too many cases. Dirt, debris, muck and matter of all sorts get kicked or blown into the open exhaust, giving Joe all kinds of bellyaches. Or water gets in and binds him with hydrostatic lock. And you know what a pain that can be.

Here's a way to outfit Li'l Joe with a safety cap to keep him outta that kind of trouble.



Now you have an exhaust cap and you're all set up for business.

Just make sure Joe's muffler's capped whenever the grills are open **or** whenever you're washing the tank—and your hosing around won't give Joe the business he can best do without.

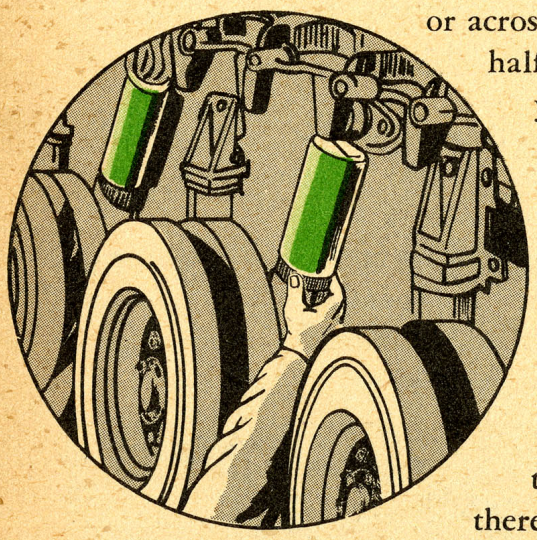
(There's no danger of running off with the cap in place—since the grill won't close right until it—the cap—is removed.)

HOT TO THE TOUCH

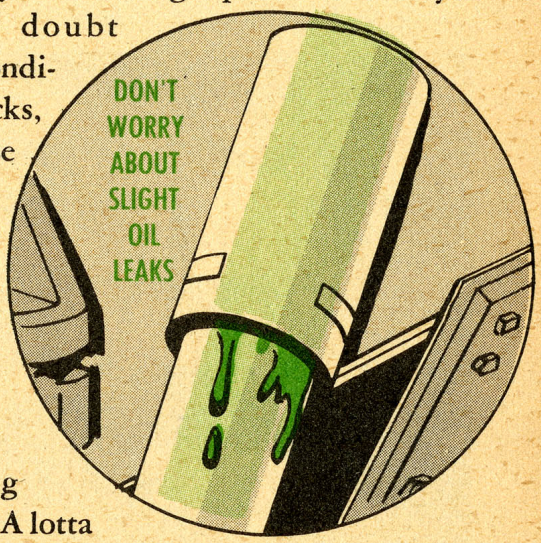
Got a question? Does your tracked vehicle have hydraulic shock absorbers?

Well...it's just as important to make sure these shocks are in good shape as it is with other types, like the snubber, because all shocks do three mighty important things. They help keep your vehicle on an even keel...make steering easier...and take up bounce that might cause other parts of the vehicle to break.

Test your shocks after you've run the vehicle at least five miles at high speed or across country for four miles. Then touch the bottom half of each with your fingertips, like you do when you wanna see if paint is wet, or a radiator is hot. Don't grab it. If the shock is warmer than the vehicle hull, it's working right. If not, you need a new shock.

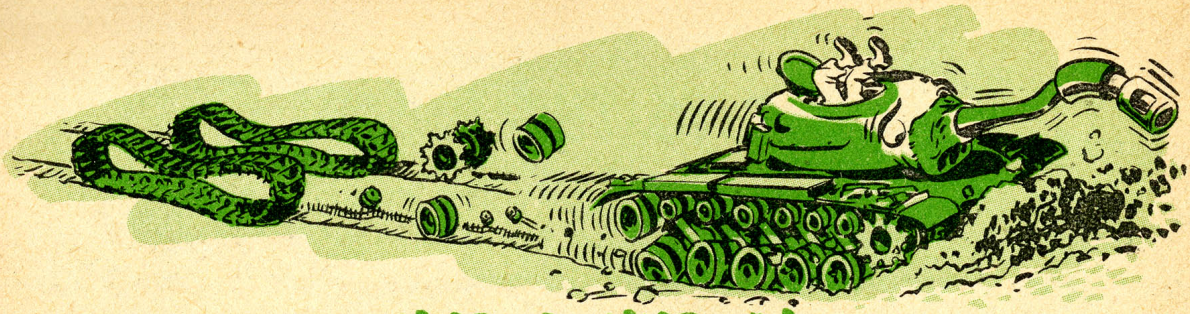


In real cold weather, like 10 degrees below zero, the shocks may be cold to the touch even though they're working up to snuff. If you have any doubt about the condition of the shocks, there's nothing else to do but remove 'em. After you've pulled the shocks, hold 'em in a vertical position and push the upper part of each down. If you get resistance as you push, and bounce back, the shock's OK. If the downward movement is spongy, the shock is shot.



Another thing...slight oil leaks are nothing to worry about. A lotta oil in the shocks is spare fluid—put there to make them last longer. So don't ask for a new shock unless it is cold to the touch under normal conditions.

There're two other parts of the shocks you wanna keep an eye on—the upper and lower bearings. Once a week (every **B** service) before using the vehicle—grab the lower part of the shock and try to shake it. If either bearing feels loose, it needs a bearing job.

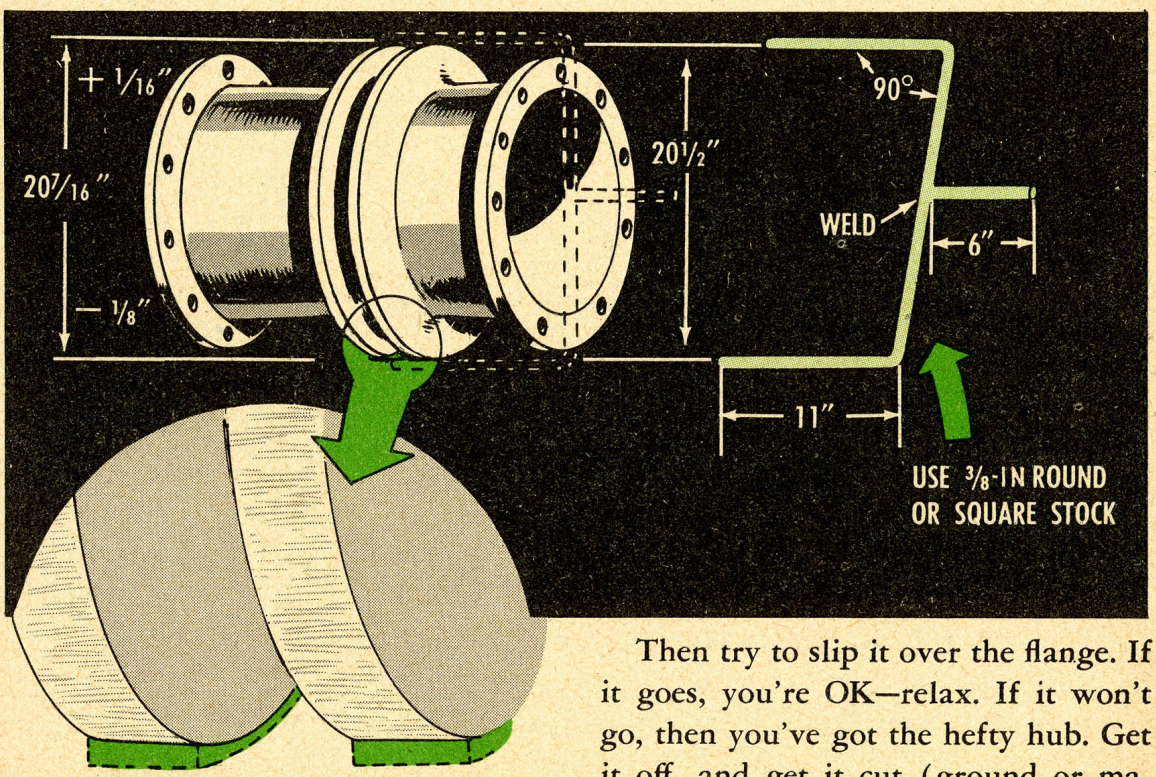


HUB-A HUB-A!

Some of the M48 tanks in your outfit may have drive-sprocket hub track-guide flanges that are a bit too beefy. It's been found that over-sized flanges which went on the early 48's can keep the track end connectors from seating right—and do dirt to your track in general.

Cast an eye on the illustration and you'll note that the outside diameter of the flange should be 20 7/16 inches, plus 1/16 or minus 1/8. (On the **over-sized** flanges the outside diameter is 21 1/2 inches, plus 1/16 or minus 1/8.)

Way to tell if you've got the right hub, Bub, is to whip up a "Go-No Go" gage like the one shown below. All y'need is a piece of 3/8-in round or square stock and a little effort. Main thing is to make sure the **inside** dimension of the gage is 20 1/2 inches.

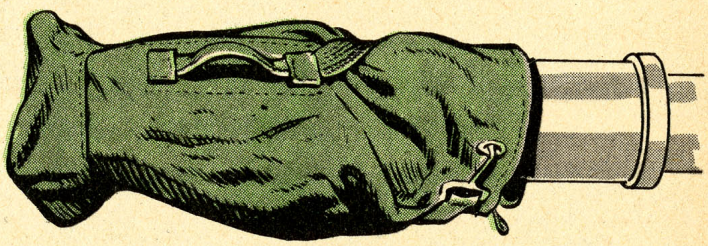


TRIM FLANGES EVENLY
ALL AROUND OUTER EDGE
TILL GAGE "GOES" AS SHOWN

Then try to slip it over the flange. If it goes, you're OK—relax. If it won't go, then you've got the hefty hub. Get it off, and get it cut (ground or machined) down to size like it shows on the left. Your Ordnance support unit'll have the tools for the job.

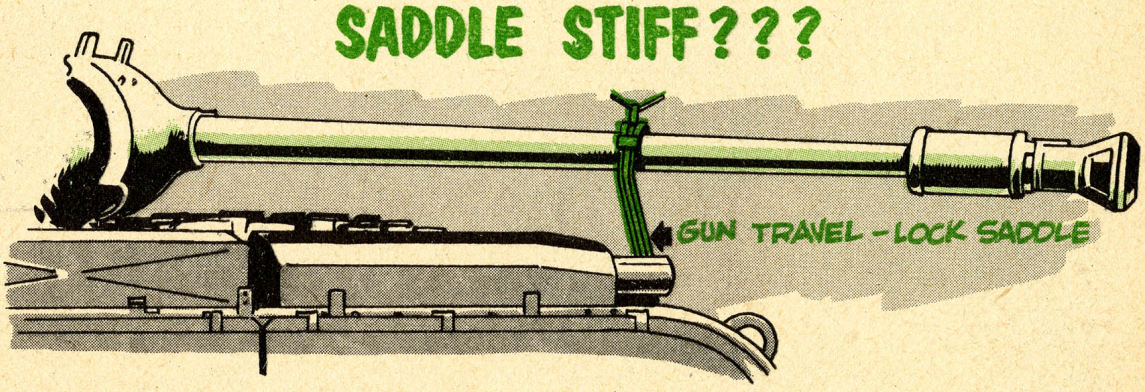
IT'S IN THE BAG

You combat vehicle men don't have to leave your guns unprotected from the weather, dust and stuff while you're waiting for a gun cover replacement to come through.



Find an empty duffel bag and fasten it around the muzzle end of the gun. The bag's a good, temporary deal.

SADDLE STIFF???

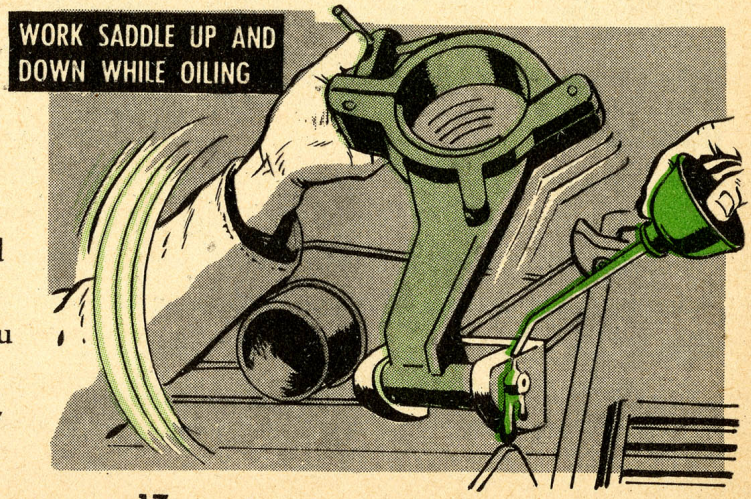


The gun travel-lock saddle on your Bulldog tank needs a good lubing every week to keep it limber. Neglect it for a while and you'll find the hinge action getting stiff, freezing up and defying you to budge it.

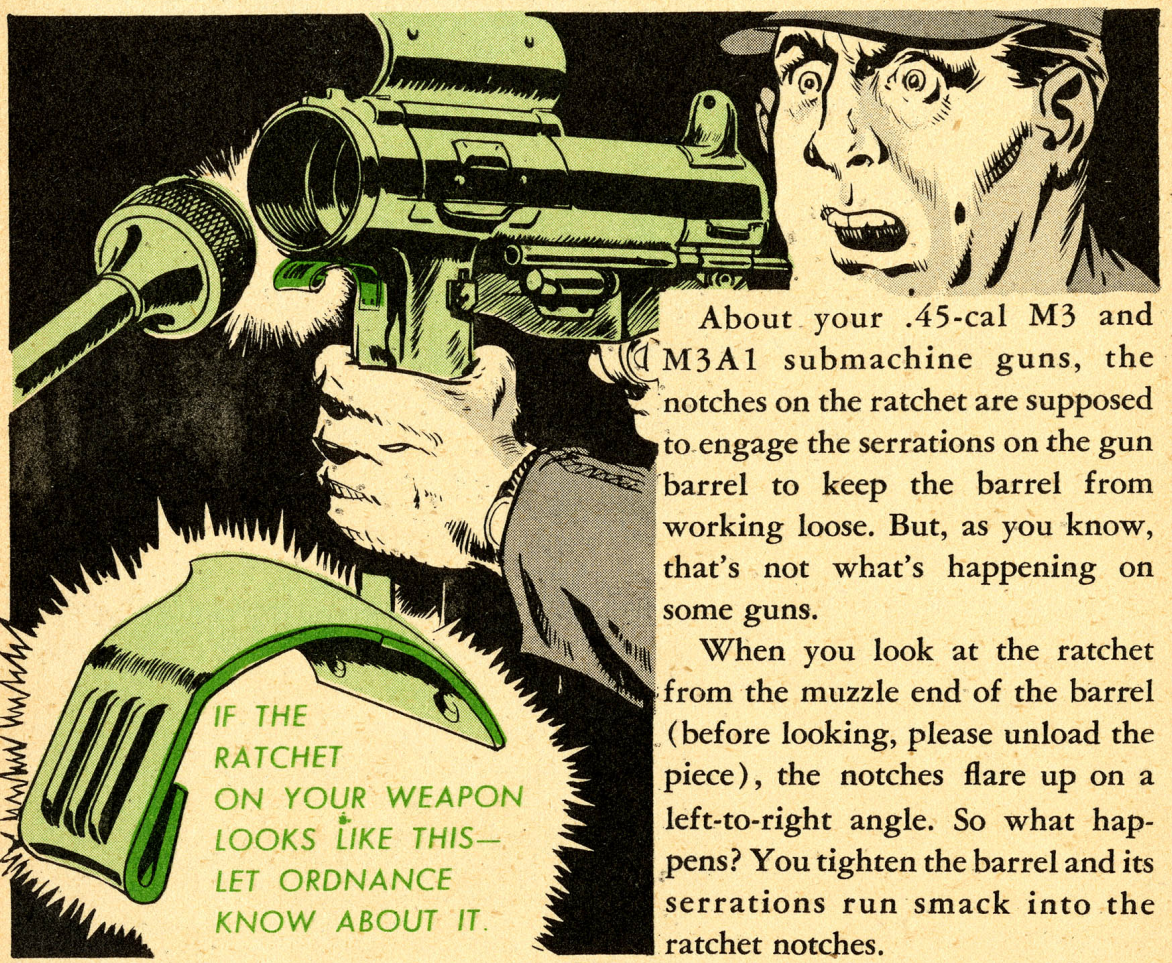
Some M41A1's have a small oil hole drilled at the base of the saddle. If yours is such, just squirt in the PL at each B service—like the lube order (LO 9-7016) says.

But if your 'Dog doesn't have a hole, you'll wanta squirt the oil on the moving parts—then work the saddle up and down a few times, till you know you've worked the oil to the right spots.

Then wipe up any oil you may have spilled on the deck . . . and maybe save somebody else a nasty spill.



OUT ROLLS THE BARREL



About your .45-cal M3 and M3A1 submachine guns, the notches on the ratchet are supposed to engage the serrations on the gun barrel to keep the barrel from working loose. But, as you know, that's not what's happening on some guns.

When you look at the ratchet from the muzzle end of the barrel (before looking, please unload the piece), the notches flare up on a left-to-right angle. So what happens? You tighten the barrel and its serrations run smack into the ratchet notches.

You can push down on the ratchet while tightening the barrel and you don't run into any trouble. Once the barrel is snug in its bushing, though, the ratchet practically becomes a decoration because of its wrong-way notches. The notches don't engage the serrations on the barrel so there's nothing to keep it from working loose.

If your weapon has the wrong ratchet, turn in the gun and tell the Ordnance people you want the gun to be equipped with Spring (that's the ratchet), Ord Stock No. A058-7161935.

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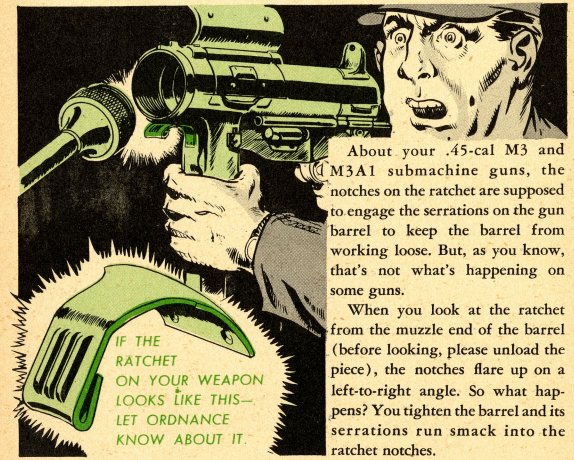

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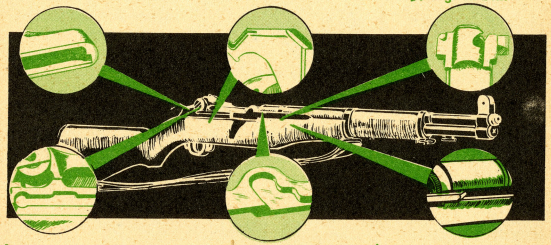
NO LUBE, NO GO

Didja know there're some half dozen places on your .30-cal M1 rifle that are "musts" for lubrication? Those are the spots you've gotta keep oiled because it's a case of metal rubbing against metal.

If you've got a couple of minutes, let's get started on your shootin' iron.

First . . . wipe all the parts dry. Don't stop here unless you figure on finishing the job before firing the weapon. Dryness can cause the moving parts to come to a screeching halt when you're on the firing line.

Next . . . get out the oil (that would be PL Special) and put some on your most flexible finger. Then go to work on these parts:



In salt air conditions use a light smear of rifle grease instead of PL also on the tip of the receiver.

Put an extra drop of oil on the bolt lugs. That way you kill two birds with one rifle shot because the lugs lubricate the bolt guides and recesses when you open and close the bolt three or four times.

Work all the moving parts to spread the oil around. Then wipe off the excess.

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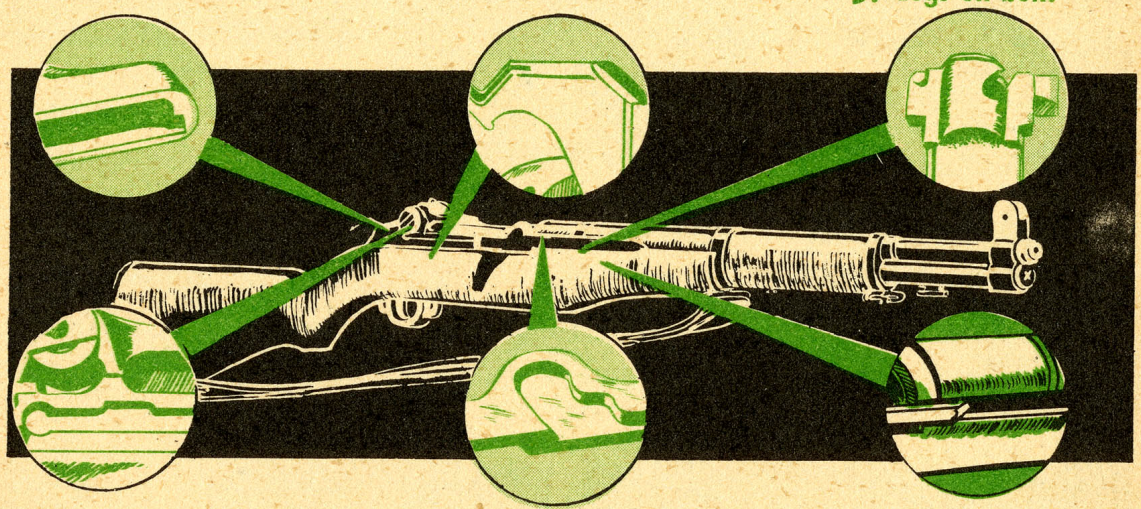
1. Inside receiver.
2. Face of hammer.
3. Lugs on bolt.*



4. Groove for operating rod.
5. Camming surfaces inside the operating rod.*
6. Barrel (where it is rubbed by the operating rod).

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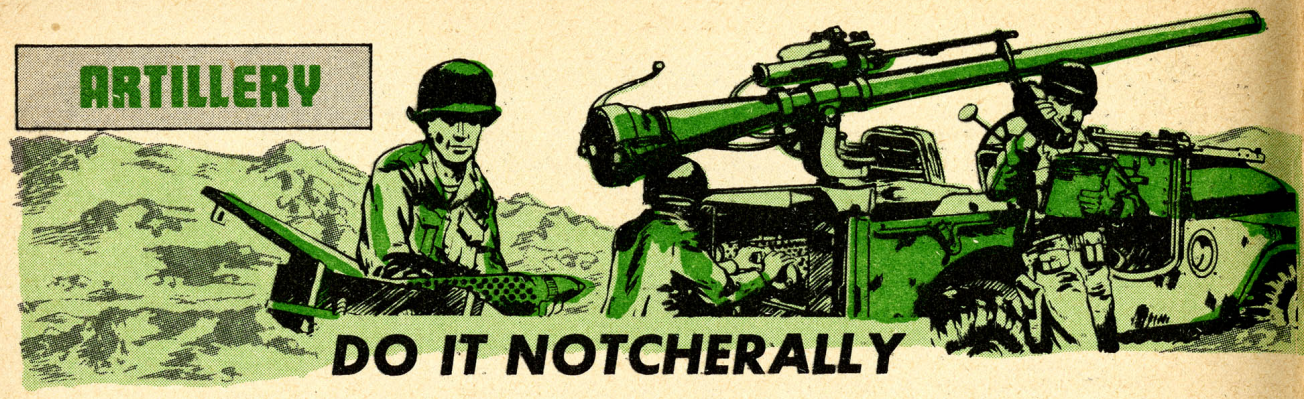
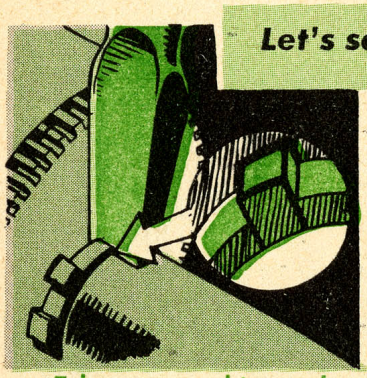

ARTILLERY

DO IT NOTCHERALLY

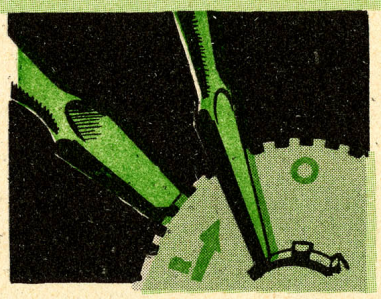
Now you can quit scratching your old noggin when trying to figure out how you're supposed to adjust the aiming gimmicks on the spotting rifle used with the 106-mm recoilless rifle. The complaint that TM 9-3058 says to rotate the azimuth and elevation cams but doesn't explain how to do it can now be put to bed.

To bring that spotting rifle on target, make the adjustments this way. First of all no special tool is needed . . . two screwdrivers will do it.

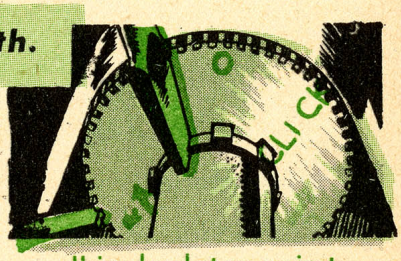
Let's say you want right azimuth.



Take one screwdriver and push down on locking spring that's popped up. Hold it down.



Then take t'other screwdriver and insert the tip in one of the cam notches.



Using bracket as a pivot, push down on the screwdriver handle—easy like. Cam will move and you'll hear a click—means you've moved 0.3 (3/10ths) of a mil.

If you wanna move another mil, remember every notch is locked by its own locking spring. And for every 0.3 mil of right azimuth you want, you move on to the next locking spring.

Push in the spring that popped out with the one screwdriver.

Turn cam another notch with the other screwdriver. You've moved another mil.

When you want **left** azimuth, all your movements are counter-clockwise.

The elevation adjustments work the same way . . . clockwise for up elevation and counter-clockwise for down elevation. And you take one locking spring at a time.

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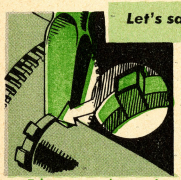

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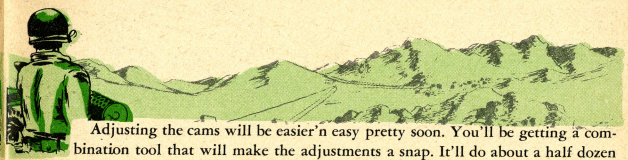


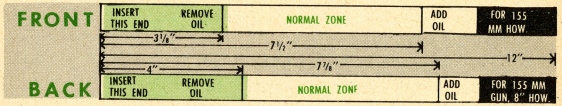
Adjusting the cams will be easier'n easy pretty soon. You'll be getting a combination tool that will make the adjustments a snap. It'll do about a half dozen other things. So be on the lookout for the tool.

One more point. It's easy enough to see that the **R** on the azimuth cam means "right" and the **L** means "left." But what about the **R** and **L** on the elevation cam. They sure don't stand for "right" and "left." Give up? It's **R** for "raise" and **L** for "lower."

RULE CHANGE

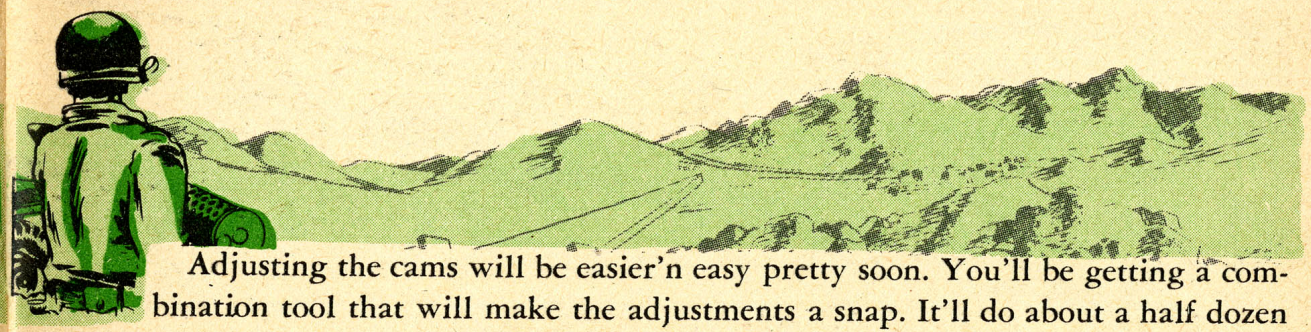
All is not lost if that 12-in rule (Ord Stock No. 41-R-2909) issued with the M3 oil pump is among the missing. That's the rule used to measure oil in the recoil replenishers of the M1 155-mm howitzer, M2 155-mm gun and M2 8-in howitzer.

You can make a substitute rule by latching on to a strip of metal or splinter-free wood which is 12-in long, ½-in wide and ⅛-in thick, and mark it up like in the drawing below.



Mark the graduations with white paint and remember that one side of the rule takes care of both the 155-mm gun and the 8-in howitzer. The other side is for the 155-mm howitzer.

You'll find that the gadget will make it a snap to measure the oil in the recoil replenisher. Insert it in the opening at the rear of the replenisher and push it in as far as it will go. The rule graduation that is flush with the rear face of the replenisher tells you how you stand, oil-wise.



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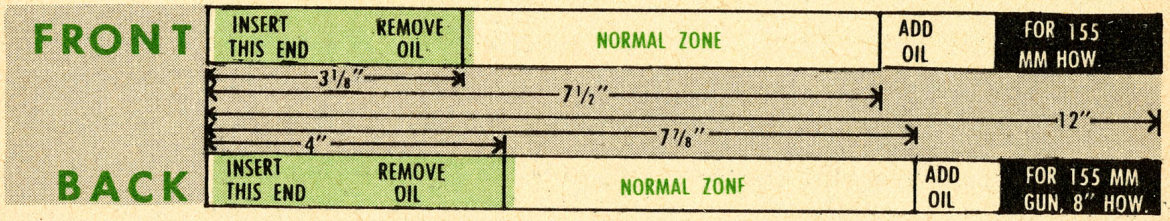

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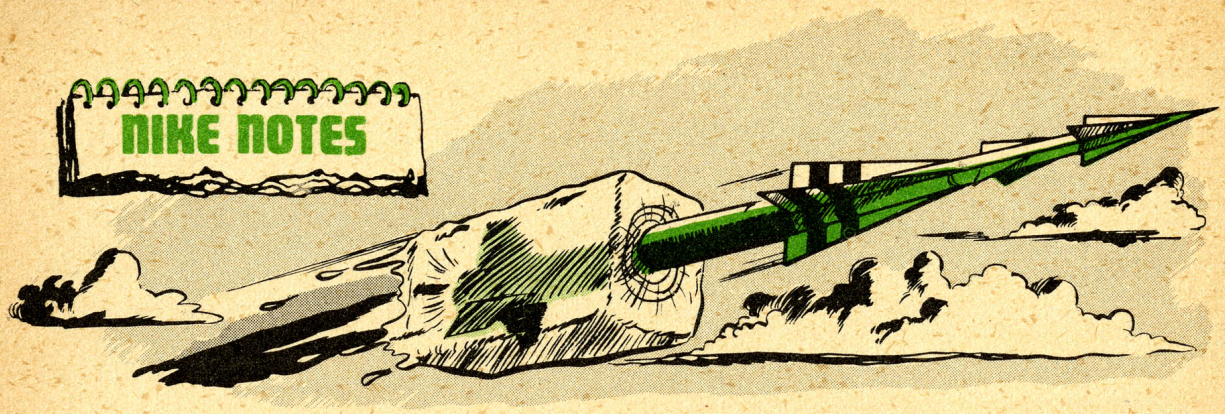
NIKE NOTES

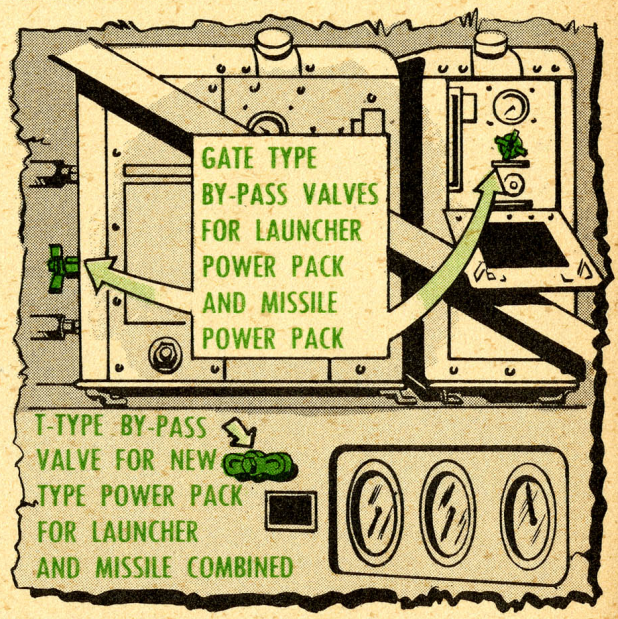


COLD LAUNCHERS

Here's one for you Nike missilemen to remember during the winter:

When you get an alert, start your launcher power packs as soon as you can, and run 'em with the by-pass valve open until action or stand-down. Particularly the pack in launchers 2, 3 and 4 since it's outside in the cold.

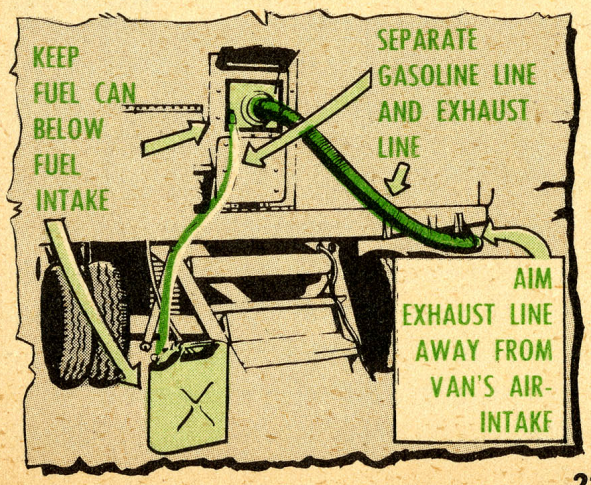
Point is, some of the boys have tried to erect a missile on a real cold day, and the launcher hydraulic oil is so stiff that it overloads the pack and blows fuzes. No great harm done, but you aren't ready, either.



NIKE VAN FIRE HAZARD

Fuel cans feeding the heating units in Nike vans belong on the ground . . . below the fuel intake.

Some people don't seem to know the heater's pump can lift gasoline six feet. They keep the can above the fuel intake to allow gravity feed—a serious fire hazard.



The added pressure, created by raising the fuel can, causes leakage around the filter-bowl gasket. Worse, it floods the heater's combustion chamber. Once that happens the chances are good for a roaring hot blaze that won't be easy to tame.

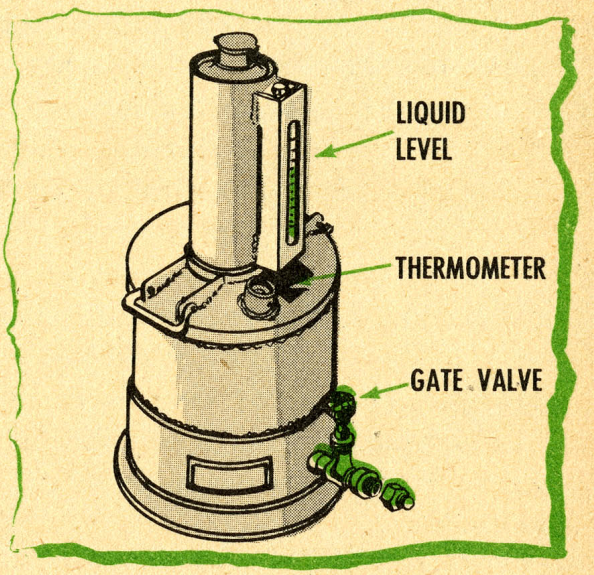
Other safety tips on handling the heater hook-up: Keep the gasoline line and the exhaust line safely away from each other, and the exhaust line aimed safely away from the van's air-intake.

YOUR JP-4 IS PURE

There's no room for water in the Nike's fuel system. So, you've gotta watch your JP-4 fill-can closely.

It's easy—all you have to do is take time to open the gate valve at the base of the can. That'll get shed of the water as it sinks to the bottom of the can, while the fuel is reaching temperature stabilization.

If draining the water lowers the required liquid level take care the JP-4 you add is also pure. (Filtering the fuel thru a clean piece of chamois is one way of getting rid of the water.)



When the liquid-sight glass and the thermometer give you the same reading (and all the water's been drained) the fuel-can filling operation's done.

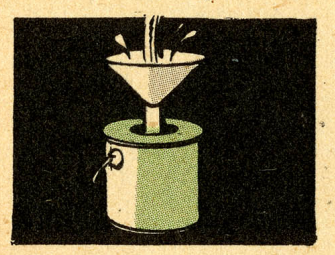
NIKE HYDRAULIC OILS

Launcher crewmen, please dwell on this, and record it well: Your missile's hydraulic power pack and test stand take hydraulic fluids Mil-0-5606 and MPD 2067.

Be especially watchful of hydraulic fluid, Mil-0-6083A, Type 1, which is usually handy since it's used in the hydraulic system of the underground elevator.

In case somebody slips up and uses the elevator fluid in the missile, here's what has to be done quick-like:

FLUID	QUANTITY	FSN
Mil-0-5606	1 quart	9150-252-6383
(Use from +50°F	1 gal	9150-223-4134
to +150°F)	55 gal	9150-265-9408
MPD 2067	1 gal	9150-698-3822
(Use from −40°F	5 gal	9150-698-3823
to +50°F)		



Drain the missile's hydraulic reservoir.

Refill with Mil-0-5606 or MPD 2067, according to temperature.

Fire up the hydraulic system and exercise the forward and aileron fins for a few minutes to put a fresh supply of oil thru the 4-way valves.

RUSTY RAIL TERMINALS

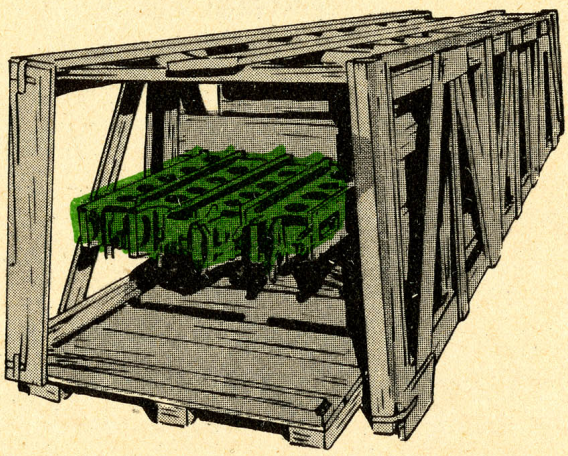
Got any Nike transporter rails sitting around in open storage, and in their original shipping crates? Any of 'em bear a number prior to Ord Serial No. 12124?

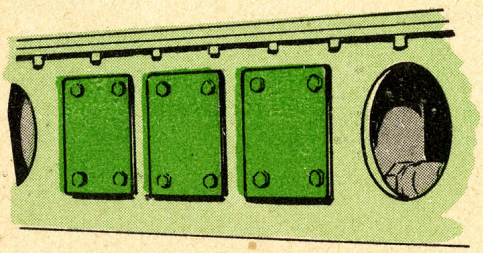
Well, you best dash out and turn the crates upside-down. That's right. Upside-down from their original shipping position. And you'll have to keep 'em that way, too, until you put 'em to work, or get 'em under some good cover. Otherwise your rails will end up with rusty crablock-terminal-strips.

Turning the crates upside-down will keep the wire junctions safe from seeping water, but before you turn the crates over you best inspect the terminals closely. If there's any sign of damage you'll have to let Ordnance tend to 'em.

You won't have this worry with transporter rails bearing Ord Serial No. 12124 and higher. They'll be crated in the normal upright position to discourage the collection of water, and you'll be able to store 'em like they come, **right side up.**

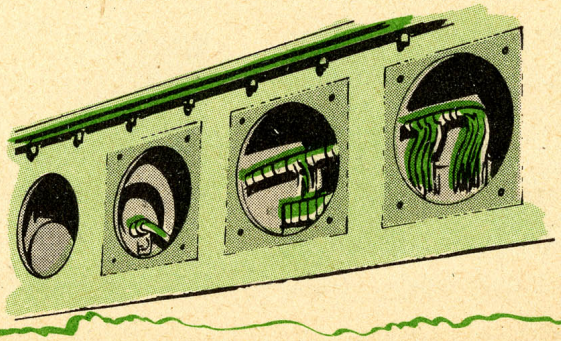
If rails are stored in this position . . . turn the crate over. This'll keep the crablocks dry during wet weather.





Turning over the crates will put these inspection plates face-downward.

This is the crablock terminal strip that must be kept dry . . . when it's facing downward, damage from collection of water, will be less likely.



NIKE CHASSIS

ROBBERS . . . BEWARE!!!

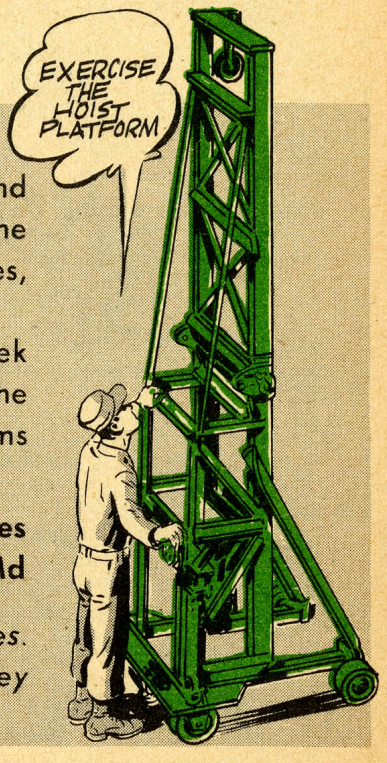
Keep your other vices, if you must, but let's not cheat on that spare electronic chassis. It's your **only** replacement for a broken like-chassis . . . you know that!

When you borrow a tube, a wire or a plug from a good spare . . . for the quick repair of a sick working chassis . . . you're cheatin' real ugly.

To begin with, it's risky business to cripple a standby chassis—you've got no way of knowing how soon you'll need it. Not to mention the fact that the part you snitch may not work on the sick chassis (may even harm it worse). Plus the fact that you may create a false demand (failure rate) for perfectly sound components.

So please play it fair, safeguard your spares . . . don't pick 'em to pieces. Use your established supply channels when you need a replacement in a hurry.

FUEL SERVICERS



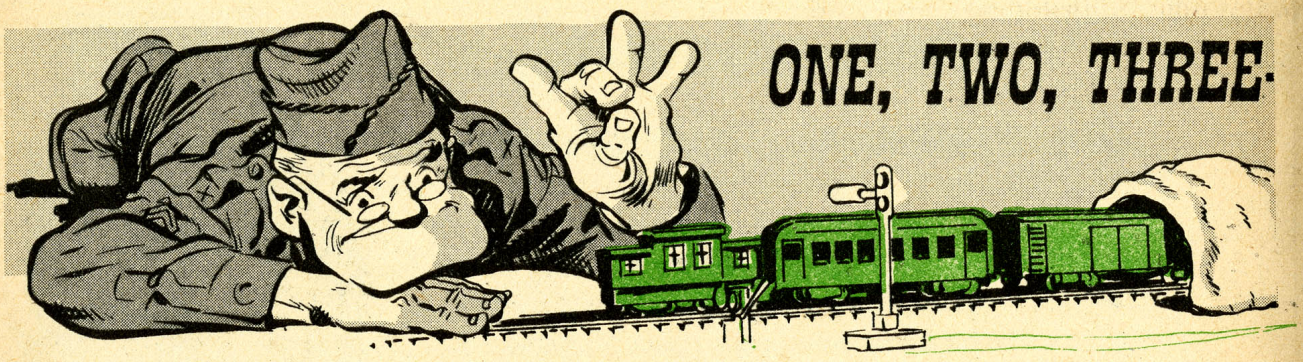
Dear Editor,

We've had a little trouble with our Nike's fuel and oxidizer servicing hoists. They got rusted up a bit on the brake and clutch faces. You can't grease these faces, and the unit sits out in the weather.

However, we've got it licked now. About once a week we run the hoist platform or the drum carrier up to the top and ease it down again a couple of times. This seems to keep the friction faces clean and unstuck.

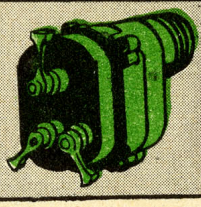
OCMT E. B. Hines
Fort Meade, Md

(Ed Note—Sounds like the only thing you can do, Mr. Hines. You sure can't grease or paint a friction surface, and if they aren't exercised every so often they sure will stick.)



For you guys who are authorized to replace light switches, here's the lowdown on how to flambozzle your lighting harnesses, so any one of the three types of master light switches you'll find in the system will fit any one of your tactical vehicles. This little opus brings TB Ord 533 (27 June 55) up to date.

Three Types of Master Switches and Their Differences

SWITCH	IT'S GOT	SO —
7729684	One large receptacle **(7388332)** and one small receptacle **(7388322)** plus a circuit breaker mounted on the firewall.	This is the oldest of your light switches. The wiring diagrams in some of your TM's are pegged for this switch.
7355600	One large receptacle **(7388332)** and a circuit breaker mounted on the firewall.	This has replaced switch **7729684.**
7368702 	One large receptacle **(7388332)** and a circuit breaker built in to it.	This is the latest model. It replaces switch **7355600** and switch **7729684.** If you get a new truck that has this switch, this is the **only** switch you'll be able to use for that truck, because the truck won't have a circuit breaker on the firewall.

AS YOU CAN SEE BY THE **CHART**, ALL THREE SWITCHES HAVE THE **SAME** LARGE RECEPTACLE ON THEIR **REAR** ENDS, SO THERE'S NO SWEAT THERE. BUT SWITCH 7729684 — THE **OLDEST** ONE — ALSO HAS A **SMALL** RECEPTACLE, WHICH UP TILL NOW REQUIRED A **DIFFERENT** KIND OF WIRING ARRANGEMENT. WHAT WE'RE GOING TO DO IS **ALTER** THE WIRING SO YOU CAN USE **ANY** OF THE **THREE** SWITCHES IN YOUR TRUCK. BUT, IF YOU USE SWITCH 7729684 (THE **OLDEST** ONE) YOU'RE GONNA HAVE TO **CAP** THE **SMALL** RECEPTACLE.

ONE, TWO, THREE-

For you guys who are authorized to replace light switches, here's the lowdown on how to flambozzle your lighting harnesses, so any one of the three types of master light switches you'll find in the system will fit any one of your tactical vehicles. This little opus brings TB Ord 533 (27 June 55) up to date.

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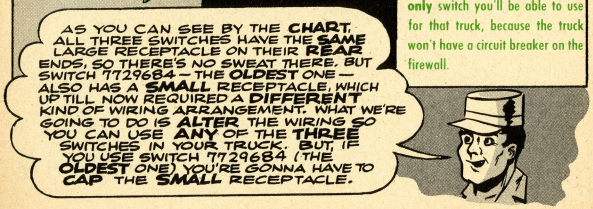
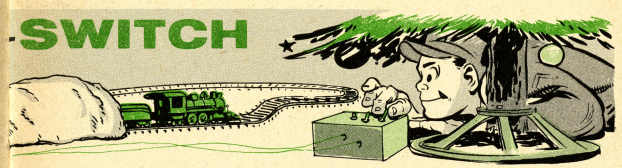


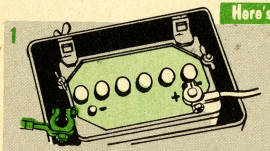


-SWITCH

You'll find one of two types of wiring harnesses on your early production truck. On one type there are four wires (23, 24, 21 and 22) coming from the small plug assembly and four wires (23, 20, 21 and 22) coming from the large receptacle. To alter this type of harness, you have to splice the four wires from the small plug into the four wires coming from the large plug.

Here's How —

1



Disconnect the battery ground cable at the battery.

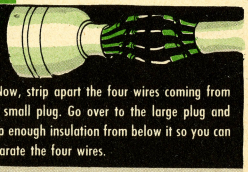
2

Disconnect the small harness plug from the small receptacle and the large harness plug from the large receptacle.

3

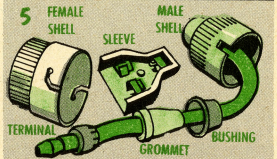
Remove the small plug assembly (7716884) from the harness, but don't throw it away—let supply have it.

4



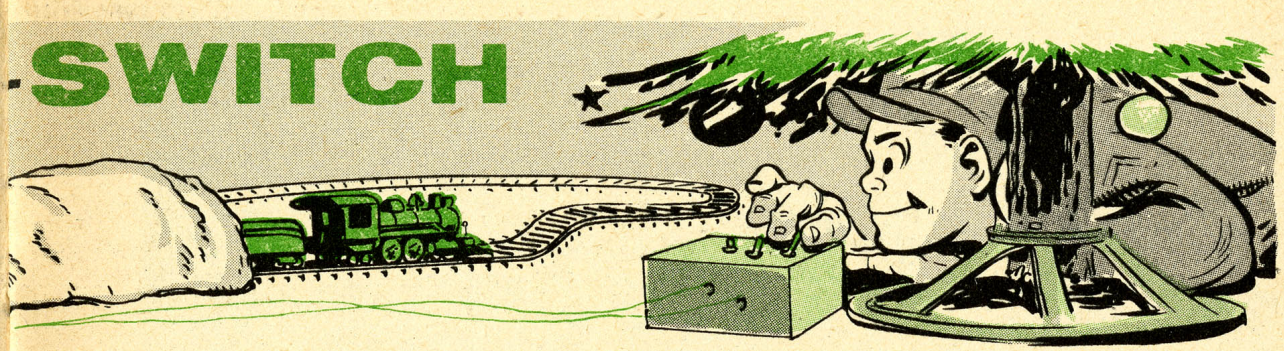
Now, strip apart the four wires coming from the small plug. Go over to the large plug and strip enough insulation from below it so you can separate the four wires.

5



To make perfect connections, use four Y-connectors from your Douglas waterproof-electrical connectors repair kit. You'll use bushing 572999, grommet 573005, shell 573009, sleeve 573126 and terminal 572929.

-SWITCH



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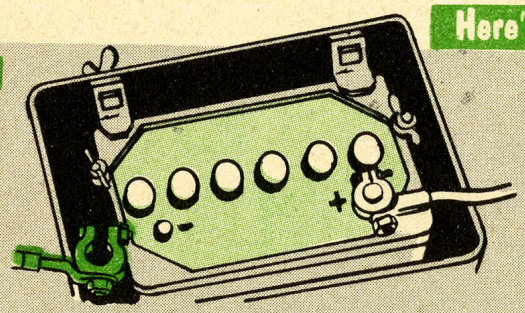

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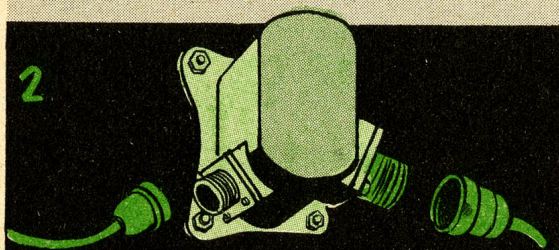
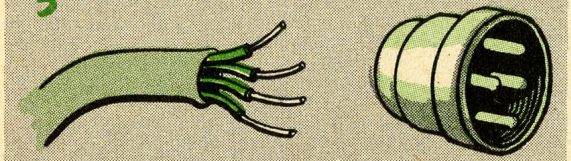


Disconnect the small harness plug from the small receptacle and the large harness plug from the large receptacle.

3



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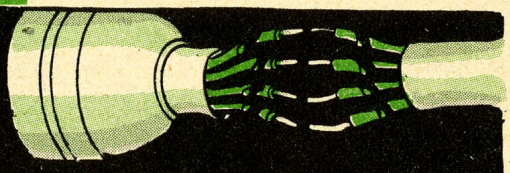

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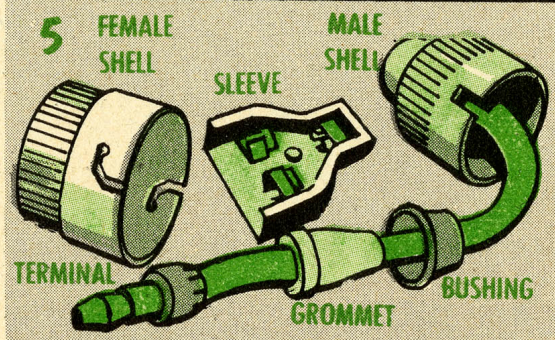

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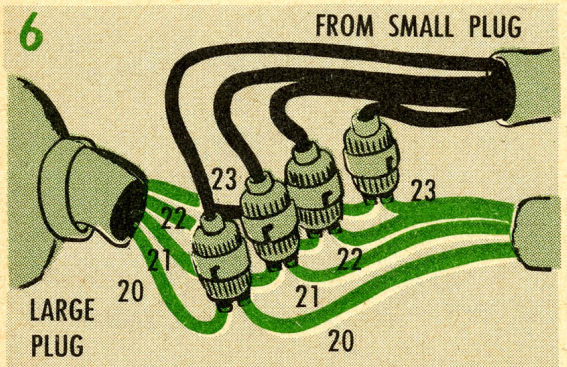
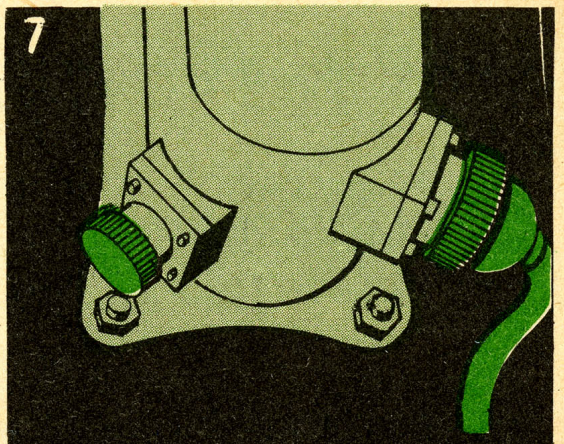


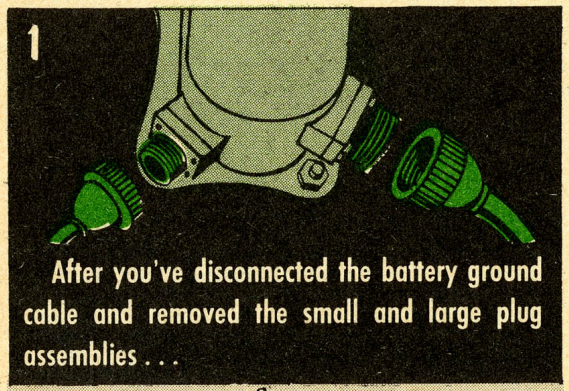
Now take wires 21, 22 and 23 coming from the **small** plug and splice them into the same numbered wires coming from the **large** plug. As far wire 24 coming from the small plug, splice this one into wire 20 coming from the large plug



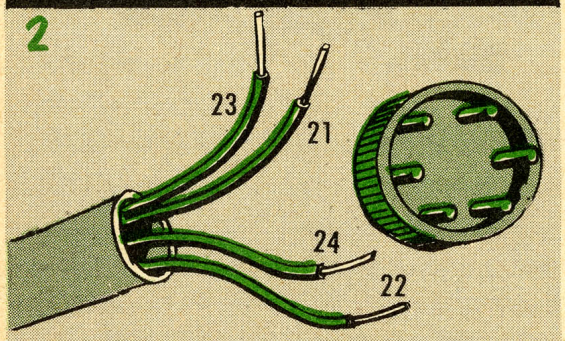
To finish up, put cap 7261674 on the small receptacle, and connect the large harness plug to the large receptacle.

The other kind of wiring harness you can find on your truck is with four wires coming from the small receptacle and no wires coming from terminals C, H and N of the large receptacle.

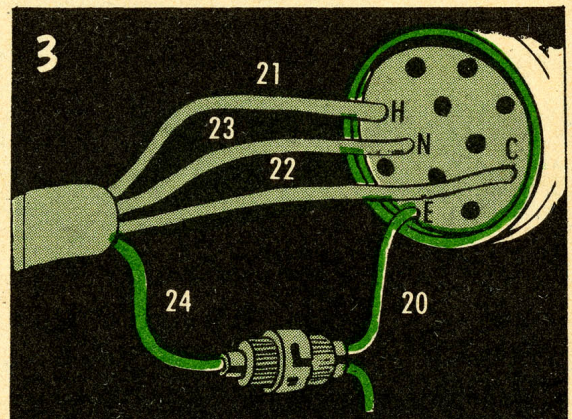
Here's how you make this hook up:



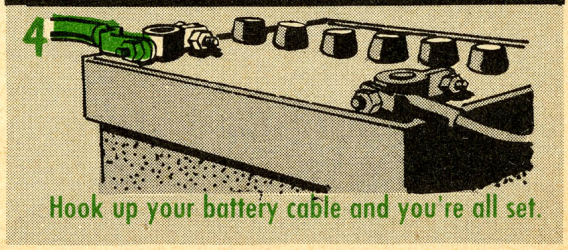
After you've disconnected the battery ground cable and removed the small and large plug assemblies . . .



Remove wires 23, 21, 24 and 22 from the small plug.



Solder them to the terminals in the large plug —23 to terminal N, 21 to terminal H and 22 to terminal C Then, splice wire 24 into wire 20 in the large plug, just like you did before.



Hook up your battery cable and you're all set.

JOE'S DOPE
FREE TURN IN!
SPARE PARTS
I WAS A E.O.B. GIRL
UNEXPURGATED
I BUSTED
STARTLING!
GREASE
I CONFESS
I CONFESS !!
I LOVED A SPARE PART
IT WAS CHILLY... GAD, THE ORDERLY ROOM WAS CHILLY... THE DAMP AUTUMN AIR SEEPED INTO MY BONES LIKE A SPRAY OF PENETRATING OIL (FED STOCK NO. 01XEONEO)... SIGH... TIME WAS MOVING LIKE A TAXI'S METER IN HEAVY TRAFFIC... WAIT... ALL I COULD DO WAS WAIT... WAIT...

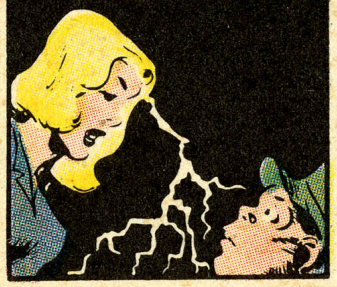
...AND THEN IT HAPPENED
EEEK BANG
KNOCK KNOCK

I FLIPPED OFF THE T.V...
EEEEEEE

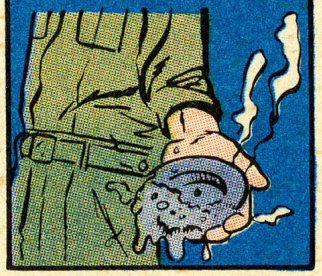
...AND... THERE SHE WAS... SLICK AS AN M-48A1 IN THE RAIN... AND MOVING TOWARD ME ON TORSION BAR SUSPENSION

SHE LOOKED AT ME LIKE I WAS A 10 DAY FURLOUGH IN PARIS... AT LAST... SHE SPOKE
YOU'VE GOT A SPARE PARTS PROBLEM!

I STOOD THERE LIKE A DISTRIBUTOR WITH A BUSTED ROTOR . . . THEN AT LAST I FELT THE AMPERAGE THE WOMAN GENERATED



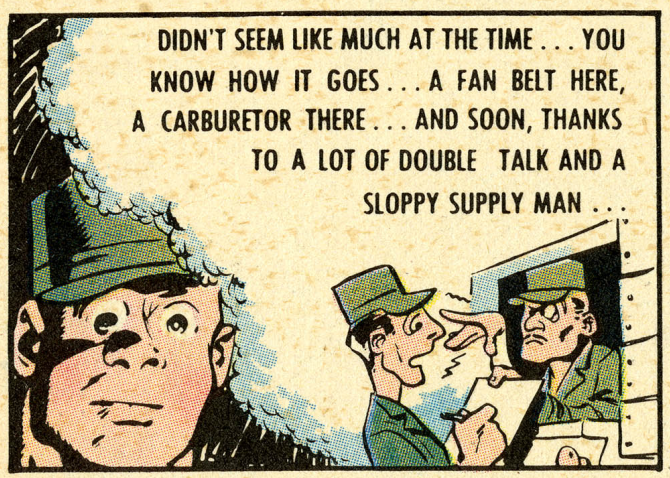
THE ASH TRAY I WAS HOLDING MELTED IN MY HAND . . . I WAS SOLDER ON THE HOT IRON OF THIS WOMAN'S WILL . .



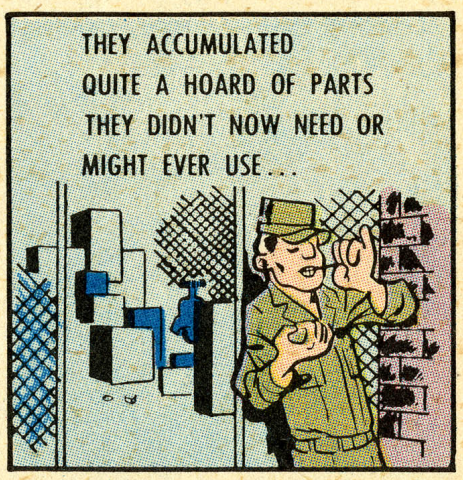
I BROKE DOWN AND TALKED . . .

I MIGHT AS WELL BEGIN FROM THE **BEGINNING** . . . OVER THE **PAST** MONTHS MY BOYS HAVE BEEN **GATHERING** QUITE A **FEW** EXTRA **SPARE PARTS** . . . .

DIDN'T SEEM LIKE MUCH AT THE TIME . . . YOU KNOW HOW IT GOES . . . A FAN BELT HERE, A CARBURETOR THERE . . . AND SOON, THANKS TO A LOT OF DOUBLE TALK AND A SLOPPY SUPPLY MAN . . .

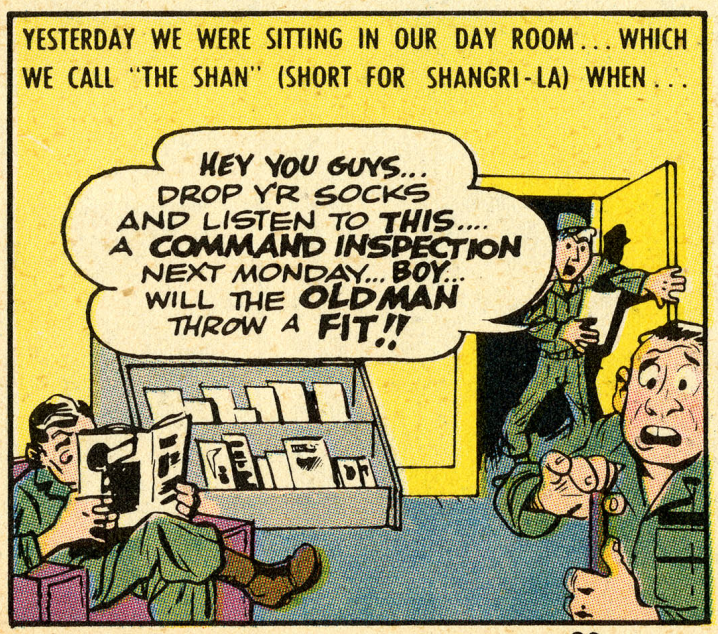


THEY ACCUMULATED QUITE A HOARD OF PARTS THEY DIDN'T NOW NEED OR MIGHT EVER USE . . .



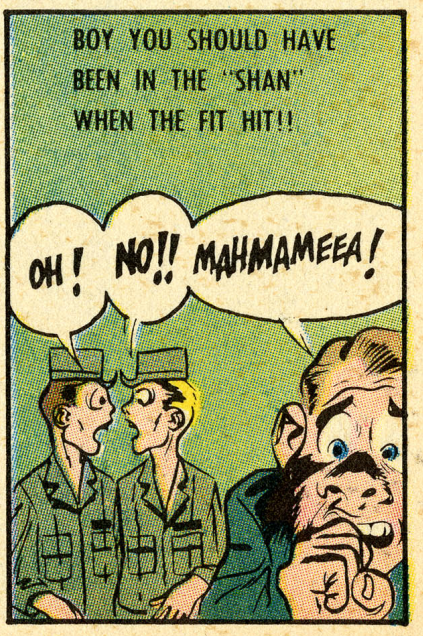
YESTERDAY WE WERE SITTING IN OUR DAY ROOM . . . WHICH WE CALL "THE SHAN" (SHORT FOR SHANGRI-LA) WHEN . . .

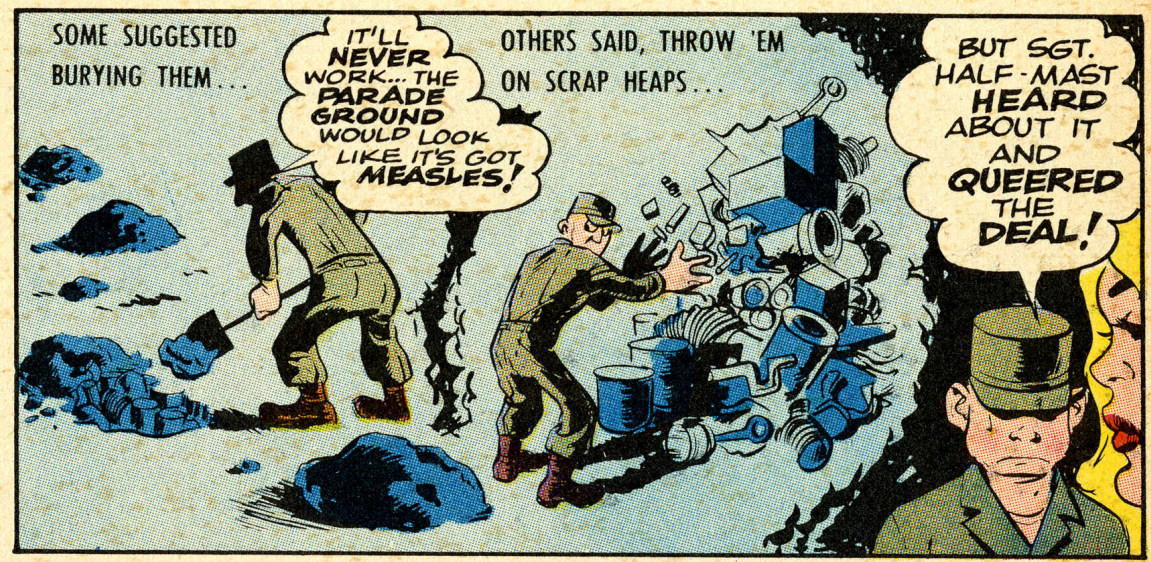
HEY YOU GUYS . . . DROP Y'R SOCKS AND LISTEN TO **THIS** . . . . A **COMMAND INSPECTION** NEXT MONDAY . . . **BOY** . . . WILL THE **OLD MAN** THROW A **FIT**!!

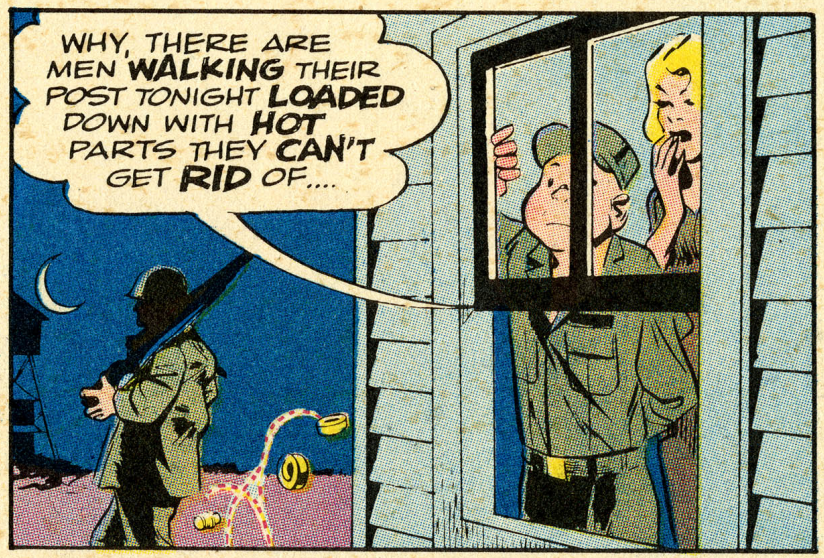


BOY YOU SHOULD HAVE BEEN IN THE "SHAN" WHEN THE FIT HIT!!

OH! NO!! MAHMAMEEA!

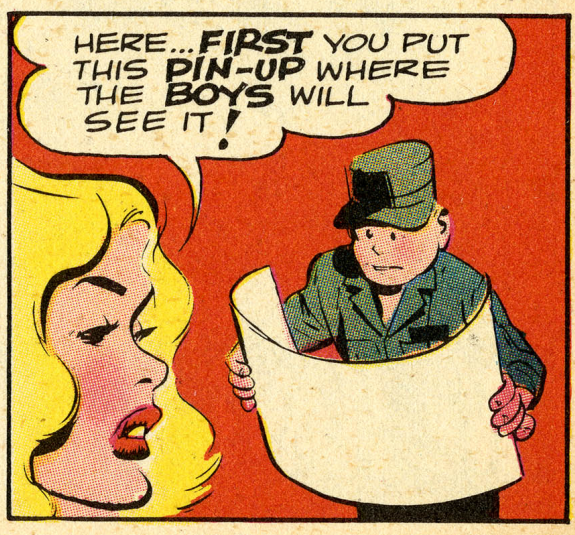


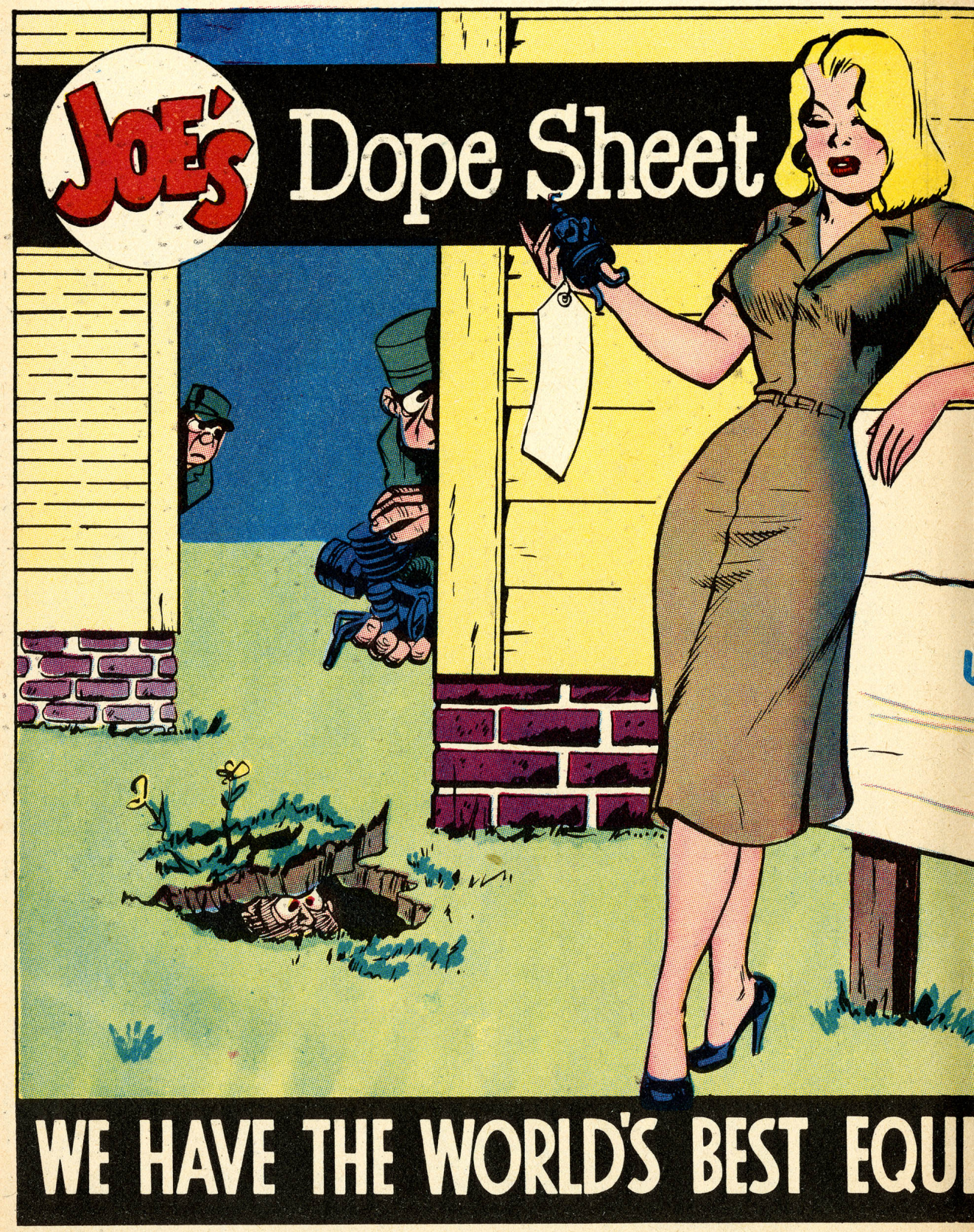

SOME SUGGESTED BURYING THEM...
IT'LL NEVER WORK... THE PARADE GROUND WOULD LOOK LIKE IT'S GOT MEASLES!
OTHERS SAID, THROW 'EM ON SCRAP HEAPS...
BUT SGT. HALF-MAST HEARD ABOUT IT AND QUEERED THE DEAL!


WHY, THERE ARE MEN WALKING THEIR POST TONIGHT LOADED DOWN WITH HOT PARTS THEY CAN'T GET RID OF....

I WANT TO HELP MY MEN, CONNIE, BUT I DON'T KNOW WHAT TO DO!

SHE DIDNT ANSWER... INSTEAD SHE PRODUCED A ROLLED UP PAPER...

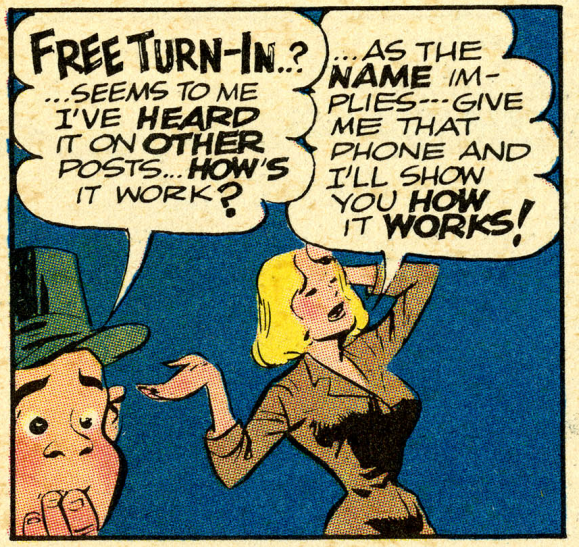

HERE... FIRST YOU PUT THIS PIN-UP WHERE THE BOYS WILL SEE IT!

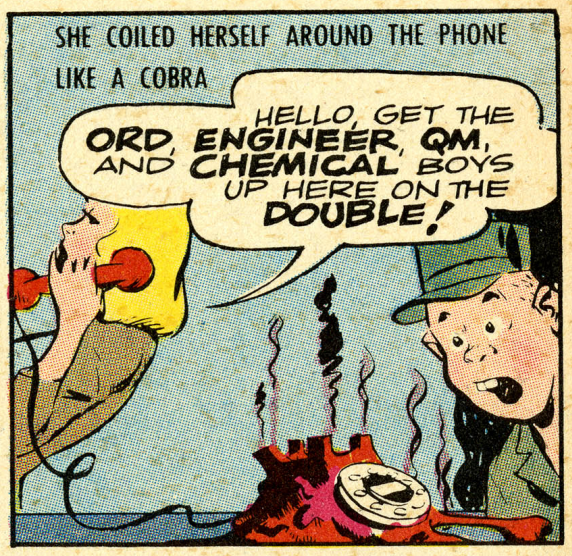

JOE'S
Dope Sheet
WE HAVE THE WORLD'S BEST EQU

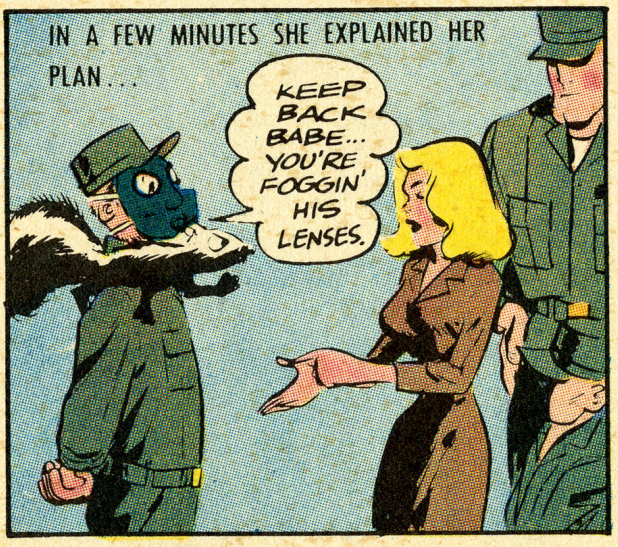
JOE'S
Dope Sheet
Come out, come out wherever you are
You savers of parts who have gone too far.
"Free-Turn-In" is here
For unauthorized gear.
You just turn them all in as they are.
NO QUESTIONS ASKED
JUST TAG AND TURN-IN ALL UNAUTHORIZED SPARE PARTS
NO PAPERWORK
AR 711-16 GIVES YOU THE AUTHORITY
Will Eisner
WE HAVE THE WORLD'S BEST EQUIPMENT... Take care of it

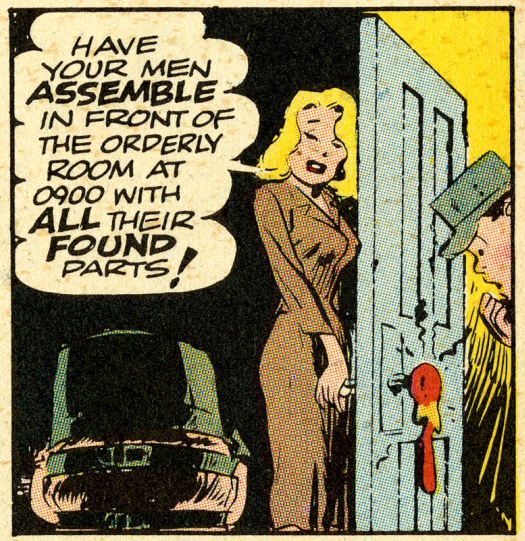
Come out, come out wherever you are
You savers of parts who have gone too far.
"Free-Turn-In" is here
For unauthorized gear.
You just turn them all in as they are.

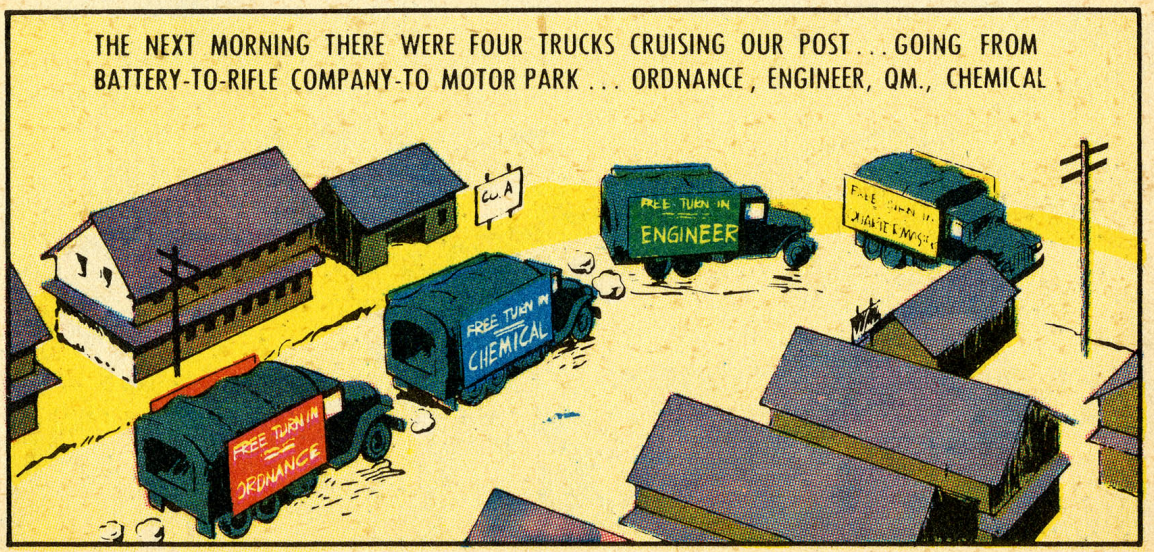
IPMENT... Take care of it


FREE TURN-IN..?
...SEEMS TO ME I'VE HEARD IT ON OTHER POSTS... HOW'S IT WORK?
...AS THE NAME IMPLIES---GIVE ME THAT PHONE AND I'LL SHOW YOU HOW IT WORKS!

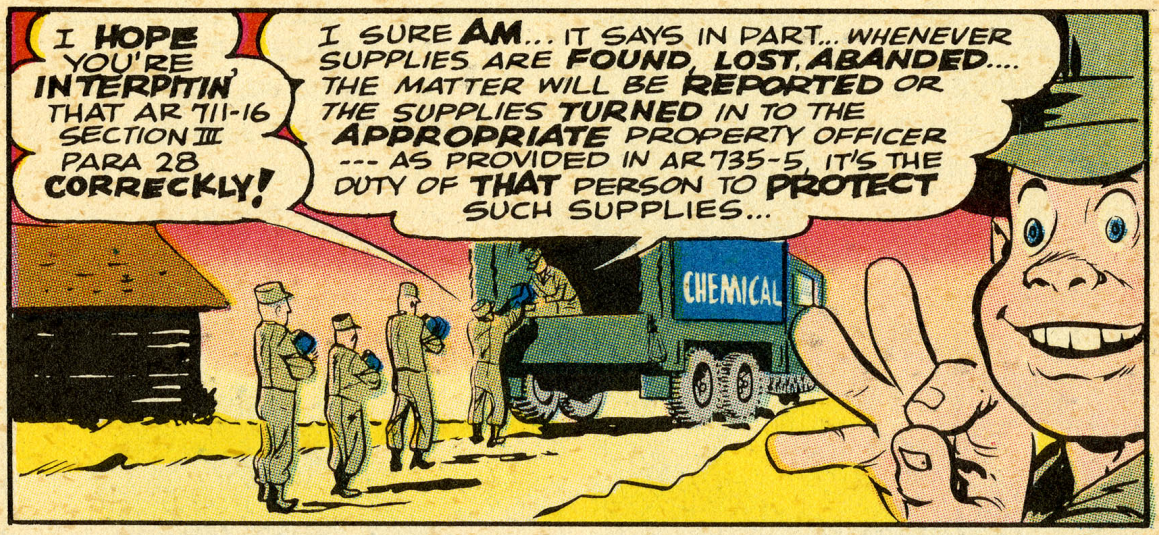

SHE COILED HERSELF AROUND THE PHONE LIKE A COBRA
HELLO, GET THE ORD, AND ENGINEER, QM, CHEMICAL BOYS UP HERE ON THE DOUBLE!

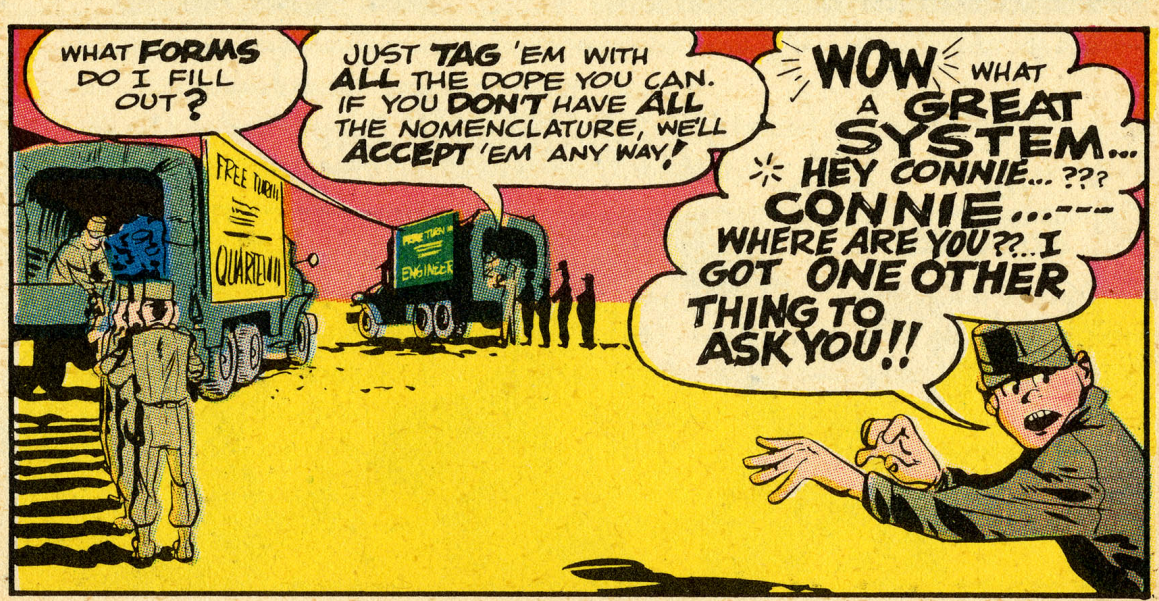

IN A FEW MINUTES SHE EXPLAINED HER PLAN...
KEEP BACK BABE... YOU'RE FOGGIN' HIS LENSES.


HAVE YOUR MEN ASSEMBLE IN FRONT OF THE ORDERLY ROOM AT 0900 WITH ALL THEIR FOUND PARTS!

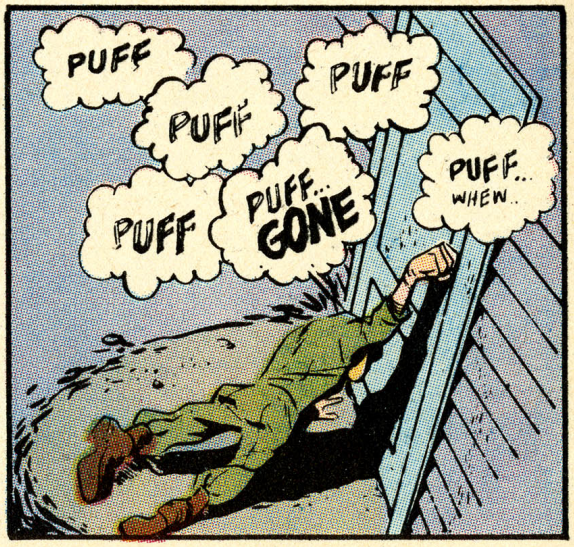

THE NEXT MORNING THERE WERE FOUR TRUCKS CRUISING OUR POST... GOING FROM BATTERY-TO-RIFLE COMPANY-TO MOTOR PARK ... ORDNANCE, ENGINEER, QM., CHEMICAL
CO. A
FREE TURN IN ENGINEER
FREE TURN IN CHEMICAL
FREE TURN IN ORDNANCE

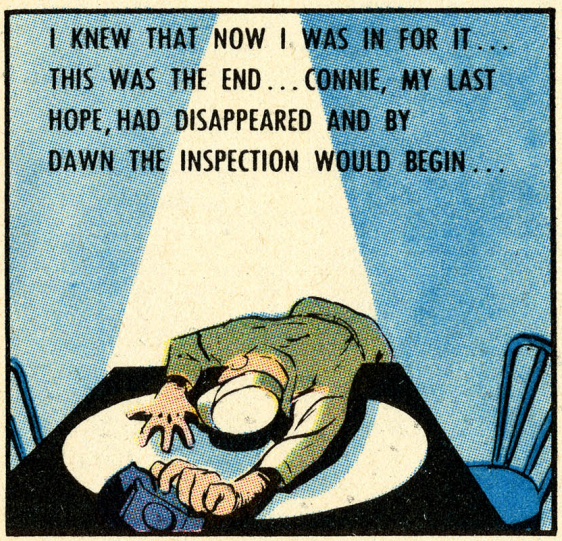
BUT SARGE, I FEEL I OUGHT TO CONFESS....
NO QUESTIONS ASKED...JUST HAND 'EM OVER ...WE'RE OPERATIN' UNDER AR 711-16!
WHAT DOES HE DO WITH 'EM NOW?
FREE TURN IN
NO FORMS
NO FUSS
ORDNANCE

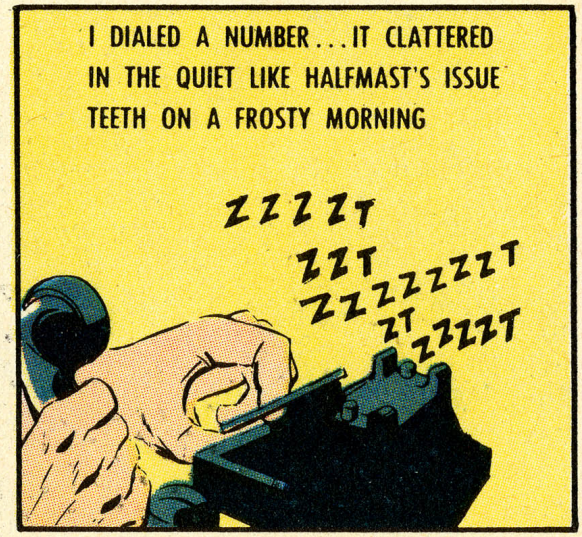

I HOPE YOU'RE INTERPITIN' THAT AR 711-16 SECTION III PARA 28 CORRECKLY!
I SURE AM... IT SAYS IN PART... WHENEVER SUPPLIES ARE FOUND, LOST, ABANDED.... THE MATTER WILL BE REPORTED OR THE SUPPLIES TURNED IN TO THE APPROPRIATE PROPERTY OFFICER --- AS PROVIDED IN AR 735-5, IT'S THE DUTY OF THAT PERSON TO PROTECT SUCH SUPPLIES...
CHEMICAL

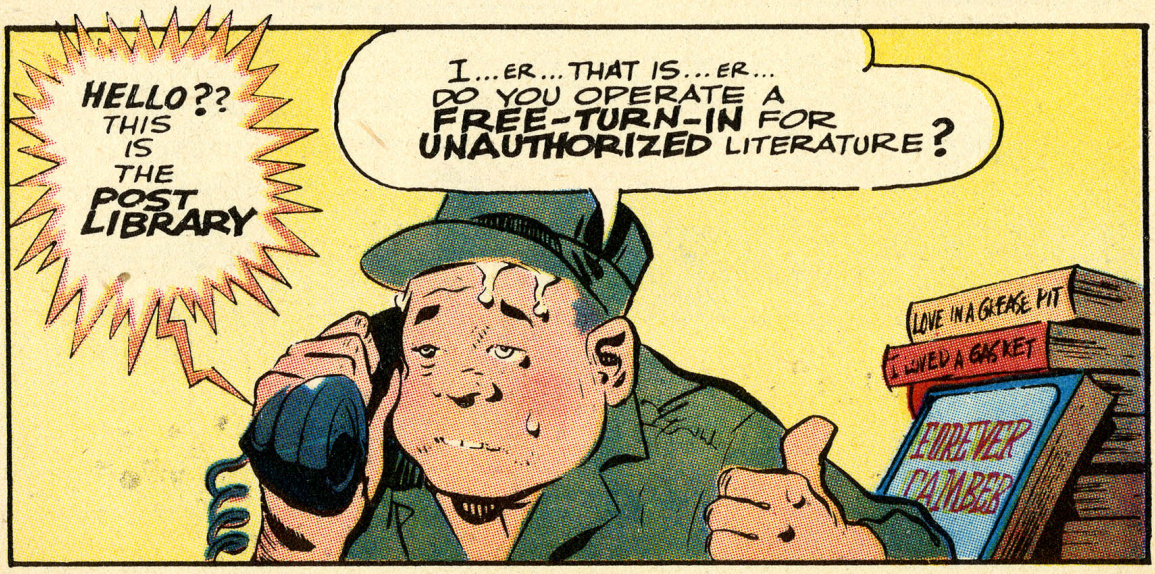

WHAT FORMS DO I FILL OUT?
JUST TAG 'EM WITH ALL THE DOPE YOU CAN. IF YOU DON'T HAVE ALL THE NOMENCLATURE, WE'LL ACCEPT 'EM ANY WAY!
WOW WHAT A GREAT SYSTEM... HEY CONNIE... ??? CONNIE...--- WHERE ARE YOU??..I GOT ONE OTHER THING TO ASK YOU!!
FREE TURN IN
QUARTERMA
FREE TURN IN
ENGINEER

I RAN...THRU THE NIGHT...OH GAD
TIME WAS RUNNING OUT AND I HAD
ONE MORE THING TO ASK...
CONNIE
CONNIE


PUFF
PUFF
PUFF
PUFF
PUFF...
GONE
PUFF...
WHEW...


I KNEW THAT NOW I WAS IN FOR IT...
THIS WAS THE END...CONNIE, MY LAST
HOPE, HAD DISAPPEARED AND BY
DAWN THE INSPECTION WOULD BEGIN...


I DIALED A NUMBER...IT CLATTERED
IN THE QUIET LIKE HALFMAST'S ISSUE
TEETH ON A FROSTY MORNING
ZZZZZT
ZZT
ZZZZZZZZT
ZT
ZZZZT


HELLO?? THIS IS THE POST LIBRARY
I...ER...THAT IS...ER...
DO YOU OPERATE A
FREE-TURN-IN FOR
UNAUTHORIZED LITERATURE?
LOVE IN A GREASE PIT
I LOVED A GASKET
FOREVER AMBER

TANK ENGINE FIRES

Dear Half-Mast,

We've been having quite a squabble over what a tank driver should do when a fire is discovered in the vehicle's engine compartment while the engine is running. There are several possibilities and different opinions on the subject (like speeding up the engine to try and draw out the flame, idling the engine and pulling the fixed fire extinguisher, stopping the engine and pulling the extinguisher, etc.).

Can you set us straight on this?

Capt J. B.

Dear Capt J. B.,

If I can't set you straight on this, then something like a hundred or so years of smoke-eating experience is shot to nil.

One of the bad things about an engine compartment fire is that it can burn so long without being discovered. If the driver's alone in the tank at the time, he usually won't know about the blaze until someone outside stops him, or his warning lights come on, or his engine stops.

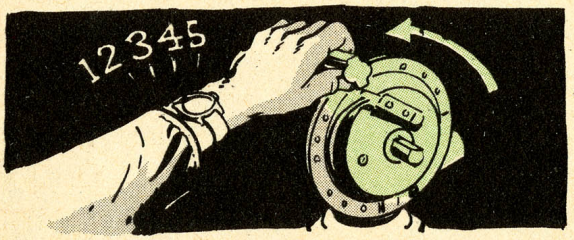
If the tank's in action, the commander may spot the trouble soon as smoke or flame shoots up through the grilles. But the crew has no way of knowing how serious the fire is—and so must assume the worst. (At a time like this y'don't go wrestling with those grille doors to see what's cooking.)

Those engine cooling fans can move a lot of air, fast. If the engine's revved up to full speed, that air blast'll remove a lot of heat, and tend to cool the compartment. But it usually won't **put out** the type of fire you get in an engine compartment. That's where your extinguishers come in.

AND HERE'S WHAT TO DO SOON AS A FIRE'S SPOTTED

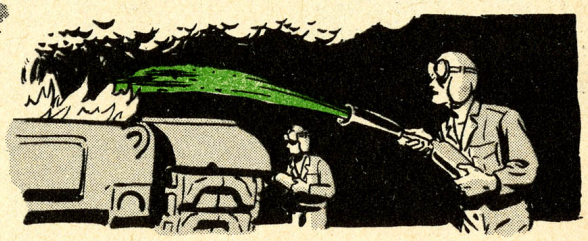
1. Evacuate crew from tank (all but the driver), if the tactical situation permits.

2. Stop the engine. Fire extinguisher system is not effective if engine's running over 1100 RPM and is only partially effective at idle.



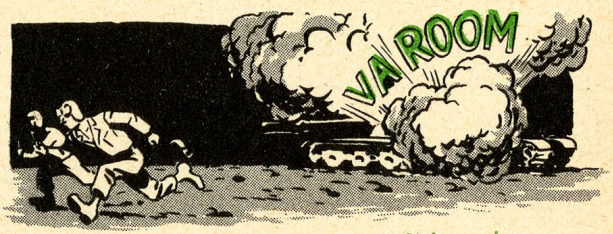
3. Wait a **few seconds** after stopping engine, then release your fixed extinguisher.

(This short delay is important . . . for this reason. The carbon dioxide gas in the extinguisher is heavier than air. It smothers the fire by filling the engine compartment—from the bottom up—choking off the air and oxygen that a fire needs to burn. If the engine's running when the carbon dioxide's released, those fans are going to shove it out through the grilles . . . before it does any good. And air will rush in to feed the flames. So a driver's got to overcome his natural tendency to hit that extinguisher handle soon as a fire is spotted.)



4. Call for more portable extinguishers from other vehicles—at once. (Assuming again that the tactical situation permits, o'course.)

5. If the flame flares up again, work on it with the portable extinguishers—or with dirt or sand, if it's handy.



6. And if it gets out of hand . . . scadoodle—before the fireworks really start. (Exploding fuel, ammo and stuff, y'know.)

7. Don't try to re-start the engine.

There are three types of material that cause fires in engine compartments: fuel and oil; fiber and rubber components; and waste or foreign matter (like rags, leaves, etc.). Except for waste, the

combustible material will usually still be around after the fire's been put out. And if the engine's re-started, the conditions that caused the fire in the first place will likely be duplicated — and another fire touched off.

Which means that a power pack that has caught fire once will likely catch fire again — until the part that caused the blaze has been fixed.

So . . . it's best not to try to re-start the engine — unless you happen to be in a tactical spot that forces you to move the tank until you're forced to abandon it.

Just one other point about engine fires. If y'know for certain that the blaze is in the air horn, then revving up your engine is the answer. Sucks the flame into the manifold — where it's not likely to do much harm.

Half-Mast

S . . . S-S . . . and LS

Dear Half-Mast,

What do the terms ***Standard, Substitute Standard*** *and* ***Limited Standard*** *mean?*

They're quoted in many Ordnance equipment publications, but I can't find an official definition for their use any place. I've heard several personal explanations for these terms, but I'm an instructor and I need something official to back up my explanation of the terms to my students.

MSgt A. A.

Dear Sgt A. A.

That's easy, Sarge. AR 705-5 gives you a run-down on these three terms. You'll also find it spelled out in SR 320-5-1, "Dictionary of United States Army Terms."

Just in case you don't have these handy, here's what the terms mean.

Standard is the classification given to your supplies and equipment which are **the most.** They are selected for Army use because they are the most advanced and most satisfactory.

Substitute Standard you could say is **the almost.** In other words, this type's not quite as good as the Standard type item, but you can use it when you don't have the Standard type.

Limited Standard. Out-of-date stuff which can be used when you can't get Standard and Substitute Standard items.

So if you're going to give these three terms your own classification, you'd probably say Limited Standard is Good, Substitute Standard is Better, and Standard is Best.

Half-Mast

TARPS AND BOWS

Dear Half-Mast,

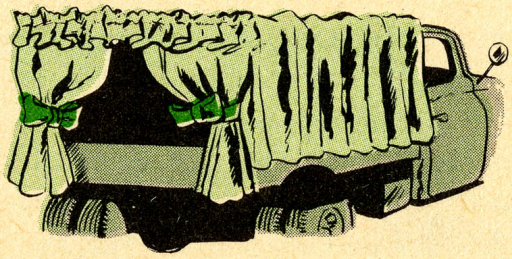
We've just received a number of those new M424 2½-ton GMC stake and platform jobs—minus tarps, bows and end curtains. Puts us in a fix, because we lug a lot of supplies around in these, and without this canvas those supplies get a lot of foul stuff thrown at them, like rain, mud, snow, etc.

Can we turn the trucks back in under the SB 9-98 warranty series and get our canvas?

Capt T. R. L.

Dear Capt T. R. L.,

Nope—you can't. The manufacturer of that truck wasn't supposed to supply canvas.



Tell you what you can do, tho. You're authorized to purchase the tarps, bows and end curtains for those commercial vehicles on a local basis. So, all you have to do is take stock and order them through your local GMC dealer.

Half-Mast

MISSING DIGIT

Dear Half-Mast,

Our latest M48 tank manual (TM 9-7012) calls for 20 ft-lb torque on the low and reverse band adjusting-screw lock nuts.

The earlier M48 manual (TM 9-718B) and the TMs for other tanks using the same CD-850 transmissions all seem to specify ***200*** *ft-lb for those lock nuts.*

Which is right?

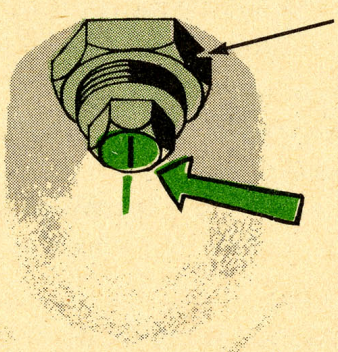
CWO F. E. P.

Dear Mr. F. E. P.,

The 200 ft-lb reading is right. There's a digit missing in TM 9-7012.

That's a good-sized lock nut you're dealing with, and it has to help withstand a lot of thermal stress. But keep in mind that when you put a hefty 200 ft-lb on the nut, there's a good chance of the screw turning, too—and fouling up your band adjustment.

Here's a way to play safe. Before tightening the lock nut, mark the adjusting screw and then make a mark on the transmission—in line with the mark on the screw. Now tighten your lock nut (to at least 200 ft-lb), and check the marks to make sure the adjusting screw didn't turn.



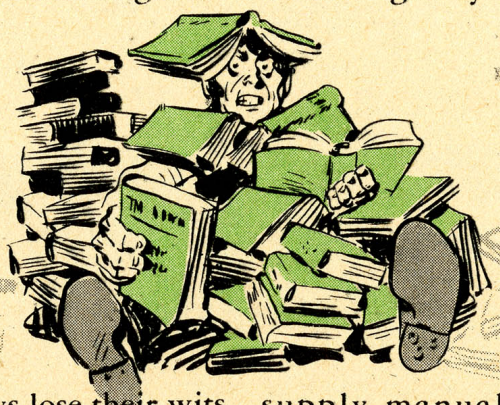
If it did, of course you've got to repeat your band adjustment and try again.

Half-Mast

Keeping Your House in Order

FOLLOW YOUR INDEX

Publications are wonderful things, especially when you've got good maintenance on the brain. They tell you most anything and everything there is to know about Preventive Maintenance, and it's a wise man who tries to get his paws on all the publications he possibly can.



With guys becoming more and more publications-wise and cherishing those prints like Mamie Stover cherished her boys, a couple of things need be said before some guys lose their wits and find out they don't know their bass from their oboe. Publications are great, wonderful, stupendous—but only just as long as you know how to use them and where to find stuff. If you don't, you can get lost in the mass mess of TM's, TB's, MWO's, etc., even when you go to do a simple PM job.

For this reason, the Army puts out what's known as indexes. And, so far as preventive maintenance is concerned, no indexes are as important for you as DA Pamphlet 310-4 and DA Pamphlet 310-29.

DA Pamphlet 310-4 is an index of current TM's, technical regulations, technical bulletins, supply bulletins, lubrication orders and MWO's. It gives you the title and number of each. In addition, let's say you have a particular subject you want to find out about, but you don't know what publications are out on it. You flip your DA Pamphlet 310-4 to the back, and there listed in alphabetical order is a list of all subjects and the publications that tell about them. Right by each subject are those publications which'll tell you all about it.

DA Pamphlet 310-29 is your index of ordnance supply manuals and is set up almost the same way as DA Pamphlet 310-4. Not only are all the supply manuals listed for you by groups, but you have a subject index in back of the book just like in DA Pamphlet 310-4. Other supply manual indexes are DA pamphlet 310-25, Engineers; DA pamphlet 310-30, Quartermaster.

Lots of new publications are always coming out. Because of this, changes are always coming out to DA Pamphlets —and the pamphlets themselves are revised pretty often. So, to be sure you get all the latest dope on these pamphlets, keep quizzing your publications section every once in a while to find out what's new.

By the way, these pamphlets have a class A distribution, which means that all the guys who need them can get them. They're on a need-to-know basis, so get on down to publications and draw a set for your outfit.

CHEMICAL

You can't wash your socks in it; you can't sleep on it, lean on it, or sit on it. Your gas mask's completely useless, you might say—unless and until . . .

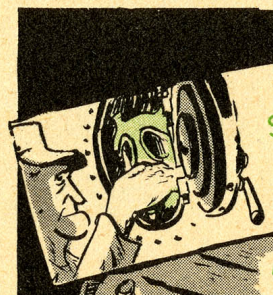
Some of the things you lug into combat can do double or even triple duty. Not so your gas mask. The only thing it can do is save your life. But what could be more important?

Your mask is altogether different from your other gear. When you have truck, tank or weapon troubles you may have a chance to duck out of sight, do some trouble-shootin' and set things back in working order. Not so with your gas mask. **If you ever need one, you'll need a good one.** No other kind will do.

You—and only you—are responsible for your mask's well being. You've got no choice but to give your mask top-notch protection at all times.

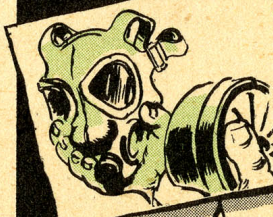
You can depend on your mask to safely take the wear and tear of field duty. Needless rough-house or neglect, however, can damage the metal parts, the rubber sections and the eye lenses. This kind of abuse could some day leave you holding the bag.

Take a look at the handy check list on the right. It'll help you know more about your gas mask and how to take care of it.



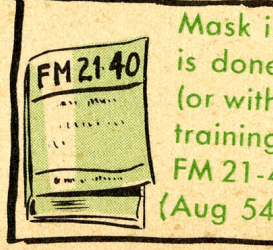
Store your mask in a cool, dry place.

Hang it up by the carrier D-ring or place it on a shelf where it won't be crushed or jammed by heavy objects.



Never detach the canister from the mask except when washing the mask or replacing the canister.

Keep water (and all other liquids) away from the inside of the canister. Moisture ruins the canister's insides and lowers its filtering powers.



Mask inspecton (normally weekly) is done under the CO's supervision (or with the aid of your chemical or training NCO). See Part Four of FM 21-40 "Defense Against CBR Attack" (Aug 54.)

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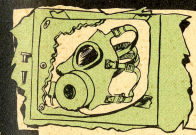
YOUR LIFE DEPENDS ON IT



There's a special way to pack the mask in its carrier.

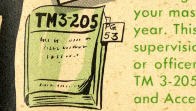
Carry only your mask and its accessories in its tote bag.

Guard well in excessive temperatures. Don't expose it to the hot sun, not even for inspection. Keep it in the bag till needed. In extreme cold keep the mask in its bag under your outer clothing.

Keep your mask free of dust, dirt, grease and oil. Brush or wash it with soap and water as needed. Inspect regularly for holes, tears, cracks, mildew, dents, rust and other damage. Report slightest imperfection to your squad leader or supply sergeant.

Keep the carrier clean. Check it for tears, dampness and mildew.

Take care the outlet valve doesn't get plugged up with junk or crushed and curled out of shape.



Thoroughly wash and condition your mask at least twice a year. This is done under the supervision of an NCO or officer. See page 53, TM 3-205 "Protective Masks and Accessories" (Apr 54.)

And last, but by no means least, get real chummy with FM 21-40, "Defense Against CBR Attack" and FM 21-41, "Soldiers Manual for Defense Against CBR Attack." They cover everything you need to know about your mask—from how to put it on and survive in it, to how to decon it in an emergency.

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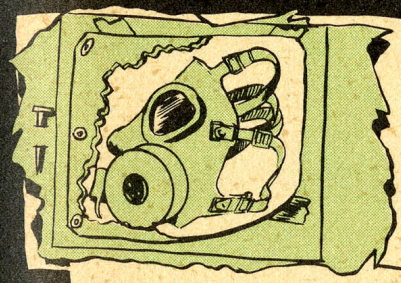

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Impregnator Safety

Give plenty of care to the door locks and latches on the impregnator unit (M2A1 Clothing Impregnating Plant). If you don't you're liable to come up with a couple of serious hazards.

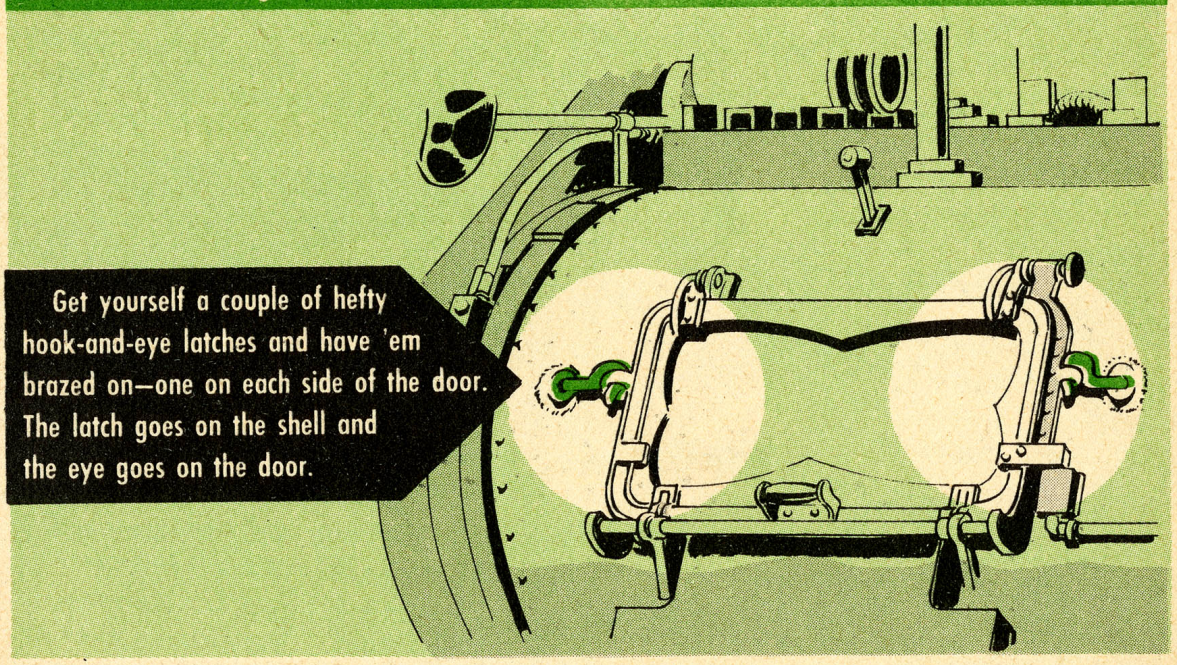
Take the latches on the inner cylinder door. They'll safely hold the door either way—open or shut—provided the latch bolt, keepers and door channels are kept clean. When the tub's used regularly all they need is an occasional going over with soap and water, and a stiff wire brush.

It's also very important that you make sure that the latch bolt stays fully sprung when you open or shut the door.

A lax latch on the inner door can let the door fly open when the cylinder's working. And when clothes get wedged between the cylinder and the outer shell you've got yourself some woe.

Give a frequent inspection to the cam lock on the heavy outer door, too. Whenever the cam lock refuses to give you a good solid lock, it may mean that the cam lock lever needs more pressure. It could also mean worn parts. If that's the case, look for a worn or misshapen gasket, a warped door or a disorderly cam lock.

If the cams don't give the outer door a good tight lock here's a fix for added safety:



For added door safety it's also a good idea to post a sign on or near the equipment, warning one and all that door locks and latches must be safety-checked frequently for proper holding-power.

Fire Starters

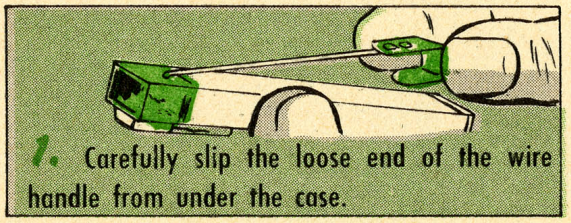
The M2 fire starter (FSN 1370-219-8566) formerly found only in fly-boy survival kits will now also be issued to Army outfits whose business takes 'em to arctic or jungle areas.

The over-grown kitchen-match gadget is handy for drying out or defrosting bits of kindling which'll serve to get a big fire going.

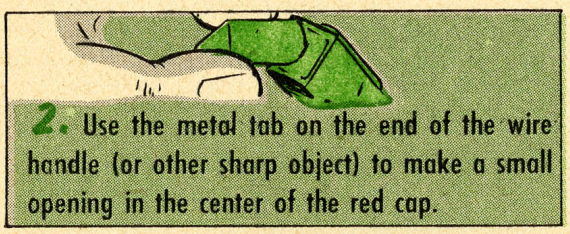
The M2 comes into the Army supply system to replace the M1 fire starter (FSN 1370-219-8565) which has been tagged as a limited standard item. When present stocks of the M1 are used up, the M2 will be the standard fire starter for both Army and Air Force units.

The M2 consists of a waterproofed cellulose-nitrate case (3-in long and ½-in wide) filled with thickened kerosene. Its red-cap top is filled with a match-head mixture and it has a pull-type scratch-wire attachment alongside which sets it off. The scratch-wire extends outside the case and becomes the handle for striking the fire starter.

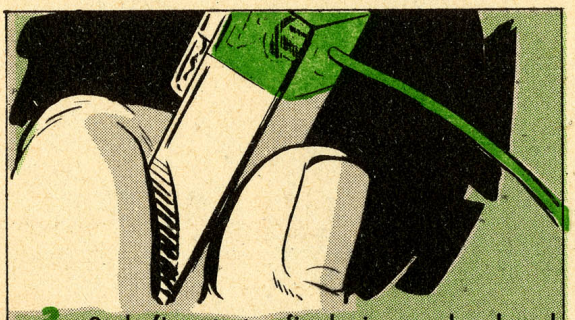
To Get 'er Sparkin'



1. Carefully slip the loose end of the wire handle from under the case.



2. Use the metal tab on the end of the wire handle (or other sharp object) to make a small opening in the center of the red cap.



3. Grab fire starter firmly in one hand and plant thumb squarely under wire where it comes out from the case. This helps keep the wire from slitting the cellulose case.

4. Point the red cap down. . .

. . . with other hand give the wire handle a fast yank back . . . and away from the case. Keep hands away from red cap.

6. Let fire starter burn for a few seconds before placing it under the kindling.

If properly started off the M2'll give you a hot flame for four minutes.

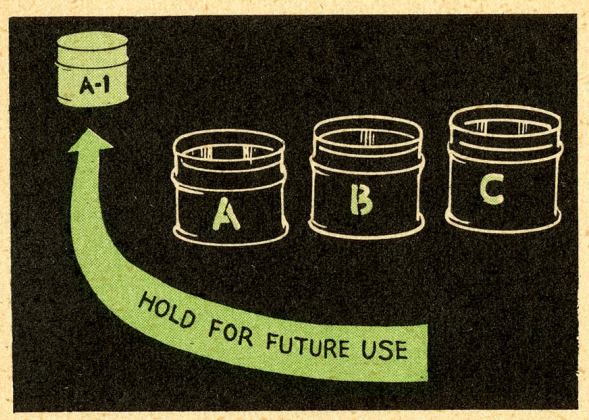
In case the ignitor device fails the match-head end can be fired up with a lighted match.

Dear Connie,

Since solvent is in short supply in this area, we had to use our good old Army ingenuity to make our supply last.

We used to throw this stuff away after using it a few times. This way our limited stock of dry cleaning solvent would often go down the drain before all our equipment parts were cleaned.

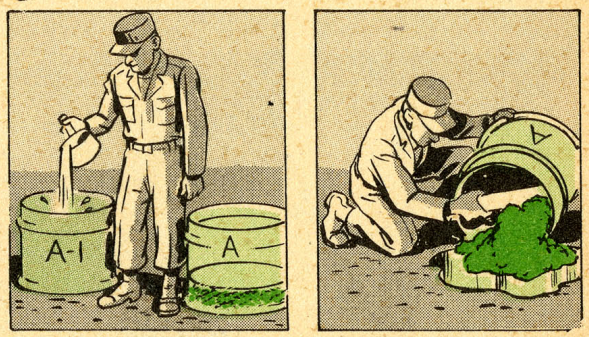
To get enough to clean all the dirty parts, we tried filtering the dirt out of used solvent—that didn't work too well. The best idea we thought of was to try to get the most use out of the solvent by setting up something like the tank system used to wash dishes in the mess hall. Here's how it works:



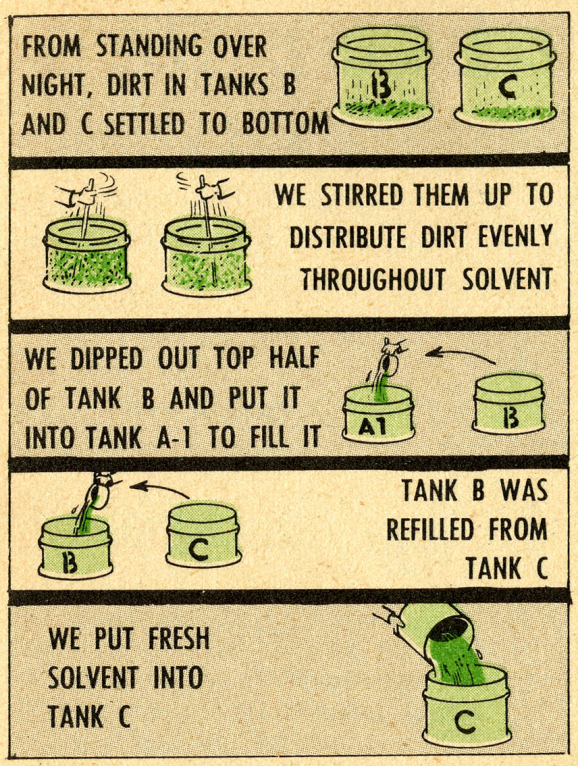
We made four tanks out of the bottom half of 55-gallon oil drums. These tanks were labeled A, A1, B and C. We filled Tank A, B and C with fresh solvent and put Tank A1 aside for future use.

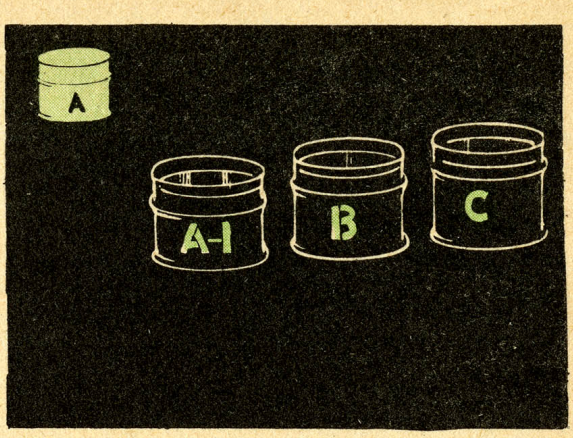
The parts were first washed in Tank A to remove the heavy dirt and grease. They were then given a further scrubbing in Tank B to take the rest of the dirt off. After that a good rinsing in Tank C, which had the cleanest solvent, completed the wash job.

To keep the solvent in top working condition, when Tank A became very dirty, we let the tanks stand overnight —time enough for the sludge to settle to the bottom. The next morning we got the clean tank marked A1 and



ladled off the top half of Tank A and put it into the clean A1 tank. We threw away the dirty and mucky bottom half of Tank A, washed out the tank and put it aside.





This time you start cleaning parts in Tank A1 in place of Tank A.

This method helps us stretch out our supply of solvents. We also find it does a better job of cleaning 'cause the part always ends up getting washed in clean solvent.

Cpl G. I. Underwood

Dry Cleaning Solvent

All Shapes, All Sizes

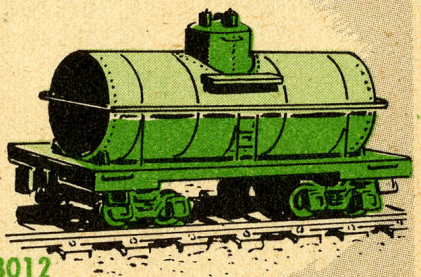
Here are the different kinds of containers and Federal Stock Numbers for the dry cleaning solvent you'll be using for most jobs. The solvent is the same in all cases, but you have different stock numbers to tell you the various sizes of the containers the stuff comes in.

FSN 6850-264-9037 (16 gauge)

FSN 6850-281-1985

FSN 6850-264-9038

FSN 6850-285-8012 (18 gauge)



FSN 6850-264-9039

Best you do a lot of double checking before you order that last 'un. That's a bulk load and you're liable to get a whole tank car full of dry cleaning solvent . . . so you'd best make sure you need and are authorized that much. These stock numbers are all listed in SM 10-1-6800 (29 Sep 55), and SB 38-5-3 (8 Mar 56).

Your Typewriter Needs Maintenance, Too...

A typewriter is something a guy's apt to take for granted. But, you know, preventive maintenance on a typewriter is just as important as on a tank, truck, motor grader or any other piece of Uncle Sam's equipment. The best part about PM on a typewriter is that it's an easy job, doesn't require much time, and it pays off.

It's a lot easier to do a typing job when your machine's running smoothly. But when it's on the blink, you get disgusted and irritated. That's when you have your own typing mistakes piled right on top of the maintenance difficulties.

PLATENS

The average Joe calls on his typewriter to do a variety of jobs. Stencils and ditto masters are hard on typewriter platens and rollers. The substance in the sheets causes the rubber to swell and get out of line.

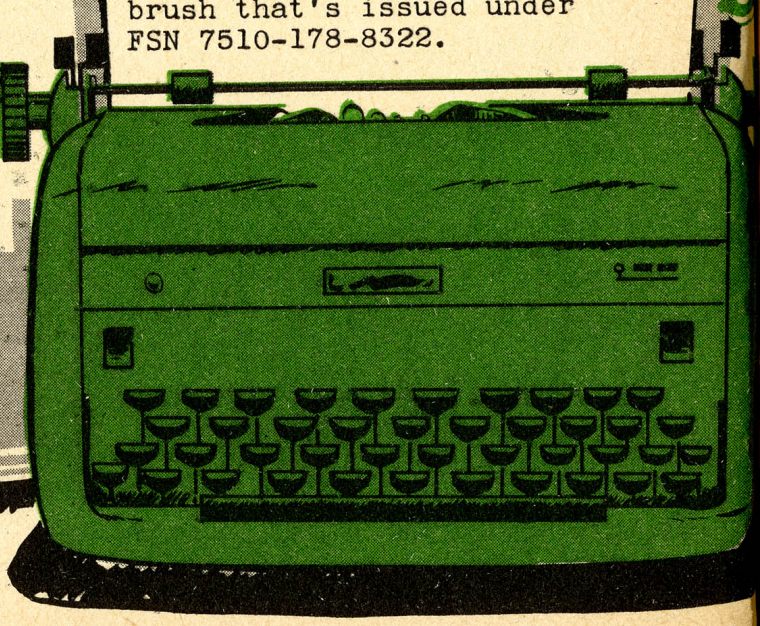
So here's what you do...make sure that one typewriter in your organization has a replaceable platen you can use for typing stencils and ditto masters. By doing this, you'll be able to keep your own machine in top-top shape. Then, when you have a stack of correspondence to do, your typing'll continue to look like a million dollars.

ERASING

The biggest PM job on your typewriter is watching the droppings from your eraser. When you have to erase, move the carriage to either the right or left before you apply the rubber.

A lot of erasings make the keys stick. Worst of all, erasings mix with the oily substance on the type bars and act as an abrasive.

For best results, brush out erasures daily from the typing bars and carriage rails. Give type a daily cleaning, too. The best tool is a stiff bristle brush that's issued under FSN 7510-178-8322.



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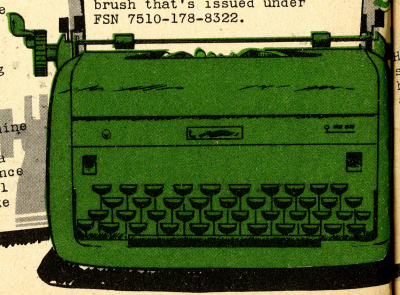

FIRE

There are a lot of little things people don't know about typewriters. For instance, did you ever think of a typewriter as a fire or safety hazard?

You see, some of the older model machines have keys made of a celluloid substance that's highly flammable. Most of the machines with flammable keyboards have had protective rubber tops put on 'em. On still others, the key tops have been replaced completely, like on Remington Model 17 typewriters, some Remington printing calculators and on older model Victor adding machines. But best keep your cigaret ashes off the keys.

RIBBONS

If your machine has a key to switch from the black to the red part of the ribbon, there'll be times when you'll have an all-black ribbon in the typewriter. When the top half of the ribbon starts getting light, you think you can get double use out of the ribbon by flipping the lever to red and using the bottom half of the ribbon. You'll find, however, that most of the ink was sucked up or absorbed by the top part of the ribbon as you used it. "Capillary attraction" is what it's called. You'll just have to change ribbons.

Be sure the ribbon you use fits the machine.

CLEAN-UP

Have you ever seen some joker spill coffee or soda pop all over his typewriter? Sure, he laughs about it and cleans it up, but he doesn't know how much damage he's done to his machine. That gummy liquid gets down in the working parts of the machine and makes the type bars sluggish.

When coffee or soda pop's poured into a machine, the only thing to do is send it to the repair shop. It'll have to be completely dismantled and cleaned before it'll work like it should.

AND BRAINS

—So, whether you're a hunt-and-pecker or a 70-word-per-minute man, you'll want to keep your typewriter performing at top efficiency. Keep these tips on the tip of your brain—and you'll be way ahead of the game.

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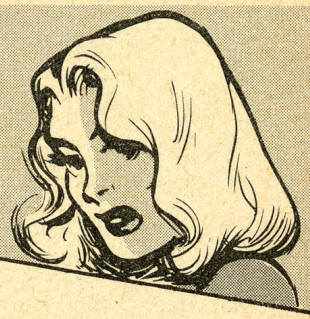

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GOOD IDEAS ARE NEVER OUTDATED

Dear Sgt Dozer,

I'm an old soldier with an old idea that really worked for us in England during WWII. We were building a runway at one of the airfields, so that meant bulldozing a lot of mucky material. The weather didn't help us a bit, as it was always plenty cold and foggy.

I was the maintenance sergeant for five Tournatractors, so I knew I had a big job to do in keeping them in tip-top shape. When the tractors sat idle for a couple of days—especially on the weekends—the dampness and foggy nights would rust up the dozer blades.

We whipped the problem in a hurry. Before leaving the tractors for the weekend, we cleaned the blades and coated 'em with used oil taken from the air cleaners. This kept the blades from rusting and didn't cost an extra nickel, because we were re-using oil that had already been used for another purpose.

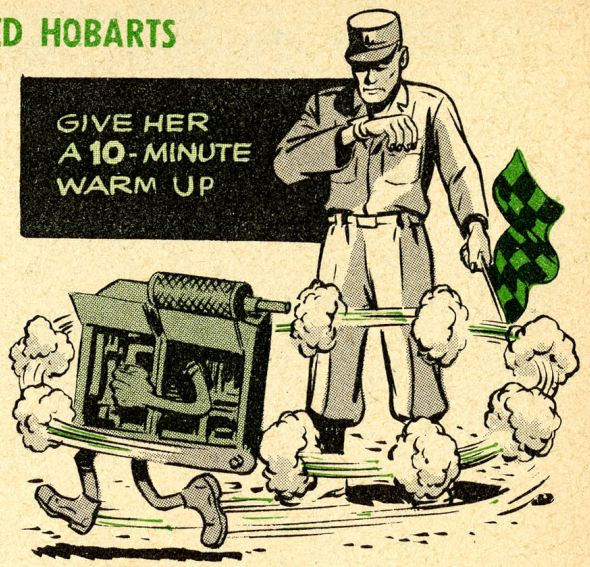
MSgt G. L. M.

Dear Sgt G. L. M.,

Nothing wrong with that. A good idea is just as good today as it was 13 or 14 years ago. It'll be especially helpful for units located in climates where they're bothered with rust.

Sgt Dozer

COLD-HEARTED HOBARTS



Dear Sgt Dozer,

We've had a couple of cases of transformer fuses blowing on our FCS M33's this winter and the radar repair men are swarmin' all over me. When we check the frequency of my generators, they're right on the nail. But then maybe the next time we start to warm up the sets, the fuzes pop again. Got any idea what my troubles could be?

Sgt W. B. N.

Dear Sgt W. B. N.,

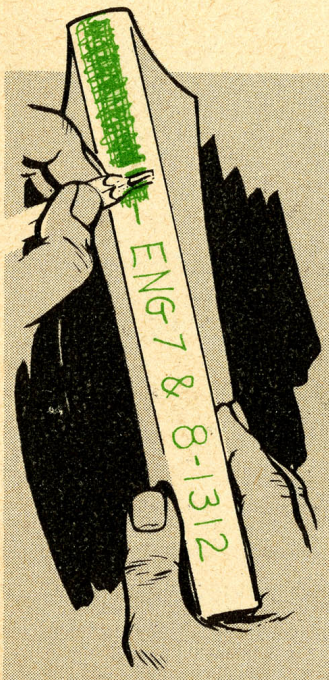
Yeah, sounds like maybe you're throwing the load onto those Hobarts before they've had a chance to warm up.

The frequency is sorta critical in the M33 system, and if your engine is puffing along just a little below governor speed, you've got trouble. This might account for the frequency checking right after the engine had warmed up, but still popping fuzes the next time you started.

Try to give at least a five, and preferably a ten-minute warm-up before you throw the load onto the generator.

Sgt Dozer

NUMBERS GAME

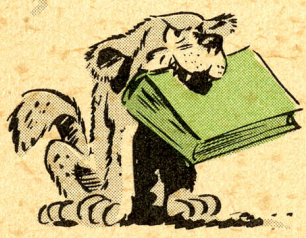


When the binding was put on ENG 7 & 8-1312 for the Lima Model 34 Crane Shovel, somebody goofed. On the bound edge of the supply manual, the number is ENG 7 & 8-9232. That couldn't be right, cause ENG 7 & 8-9232 is for the Sawmill, trailer-mounted and diesel-driven, Jackson Lumber Harvester Model RM-B.

When you look at the front of the manual, everything's OK, because you can see ENG 7 & 8-1312 listed as it should be in the upper right hand corner. So your supply manual won't be put in the wrong place on the shelf, best you get a heavy black pencil and blot out the wrong number on the bound edge and put the right number on instead.

It shouldn't happen, but it did.

YOUR SNIPER

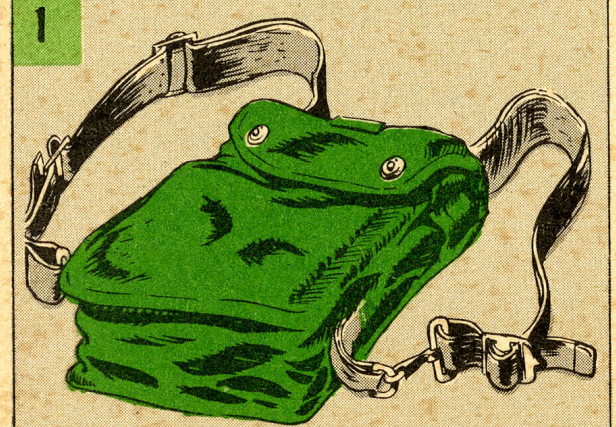


A man's best friend is his dog, but for a soldier, it's his WEAPON. The difference between life and death makes it important to him that it is always in TOP SHAPE. The same goes for attached equipment. Such as the INFRA-RED SNIPERSCOPE.

BEFORE

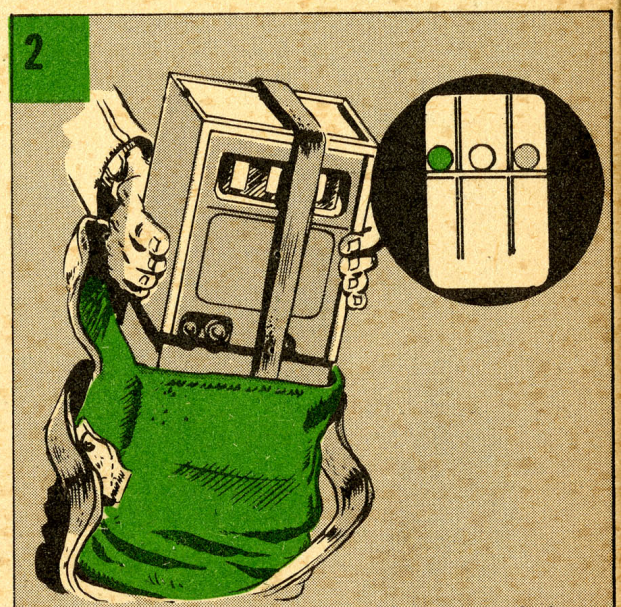
BATTERY

1



First, check the carrying case and straps. Those straps gotta be good or you can't carry the battery and power pack.

2



Slip the battery and pack out of the case. Tilt them up and see that the liquid's at the level line and those three balls are floating. You gotta watch the battery close all the time, because no juice means no go.

YOUR SNIPER SCOPE'S A... DANDY

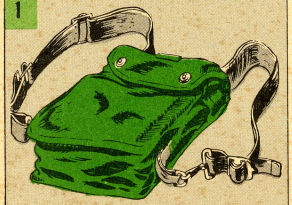
A man's best friend is his dog, but for a soldier, it's his WEAPON. The difference between life and death makes it important to him that it is always in TOP SHAPE. The same goes for attached equipment. Such as the INFRA-RED . . . SNIPERSCOPE.

Preventive maintenance on her has to be RA all the way—real gung ho. Same with treatment before, during, and after use. Soon as you have the carbine itself looked over and know she's OK and has a flash hider, check out the Sniperscope. Once you get on to it, it takes only five minutes. You can do all of it in day light, except alining the light source.

BEFORE OPERATION

BATTERY

1



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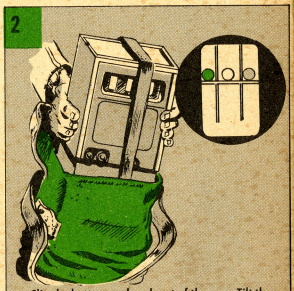

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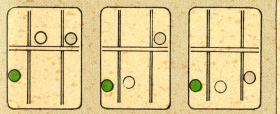
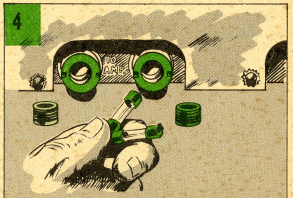


It's a three-ball operation. All three balls floating means you're all charged up. As you lose your balls and they start to sink, you're in trouble. Like it says on the battery, the green ball sinks at 75 percent of full charge, the white one at 50 percent, and the red one at 25. When you get down to one red ball, the situation's getting rough. If your battery's not charged, turn it over to the organizational mechanic and get a new one.

4



Now screw out the fuses on the battery. Screw out the fuse and the spare fuse all the way and look at 'em. Could be the cap's in the case but there's no fuse inside. If you can work it, carry a couple extra fuses in your pockets on missions. Same deal with the power pack fuses. Screw 'em both out and look at 'em.

ALL CONNECTIONS SHOULD BE HOOKED UP AND TIGHT.

SCOPE'S A... DANDY

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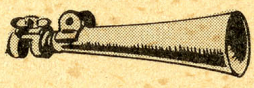
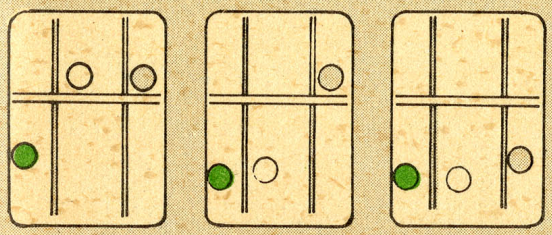


OPERATION

3



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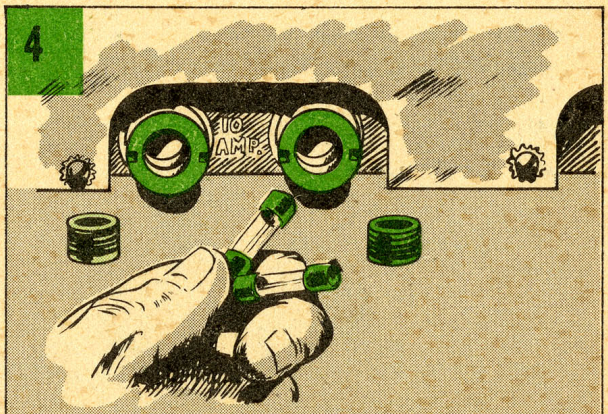

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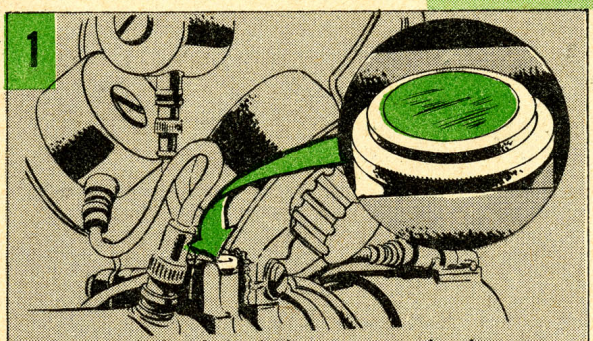
ALL CONNECTIONS SHOULD BE HOOKED UP AND TIGHT.

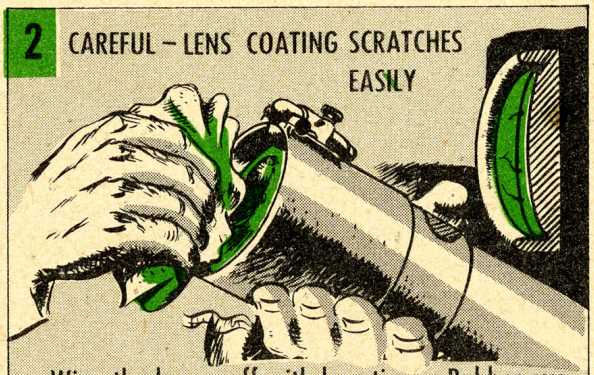
TELESCOPE

1



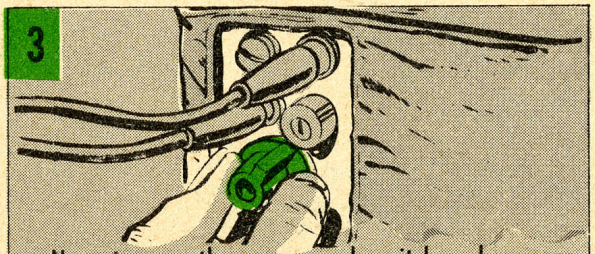
Look in behind the light source at the dessicator. Blue means it's good, pink or white means replace.

2 CAREFUL – LENS COATING SCRATCHES EASILY



Wipe the lenses off with lens tissue. Rubber eye-shield in good shape? It's gotta be light-tight when you're looking through the telescope at night.

3

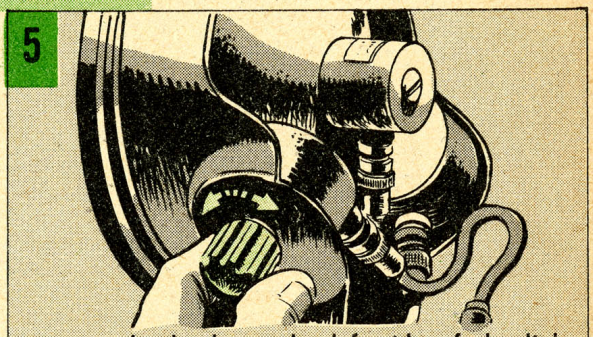


Now, turn on the power pack switch and squeeze the grip switch. The telescope's OK if you can see an image.

4

Never point telescope toward sun or any other intense light.

5

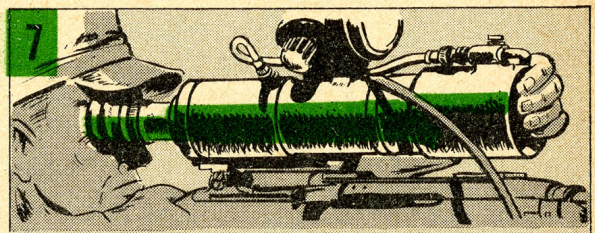


Using the knob on the left side of the light source . . .

6

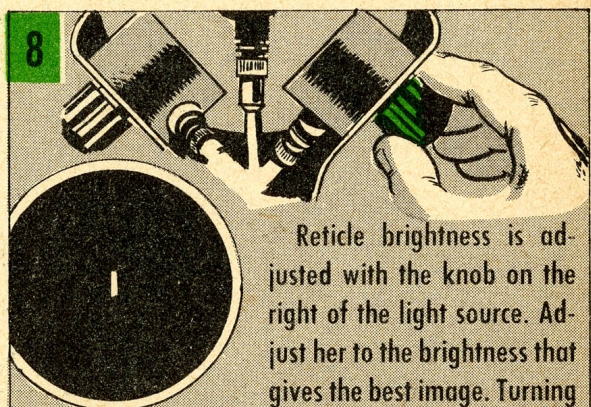
. . . see if the telescope will focus at 125 yards. If she's real blurred or no picture is coming in, turn her over to the mechanic.

7



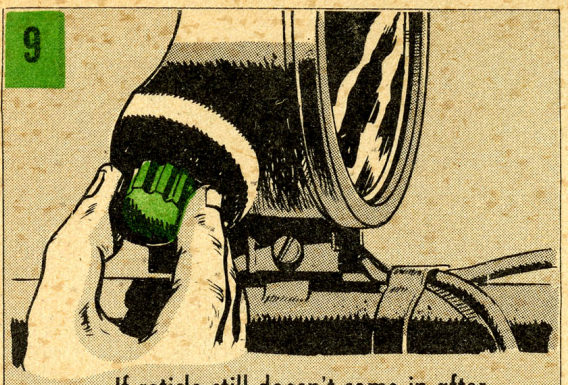
Now, cover the end of the telescope with your hand and see if the reticle's visible.

8



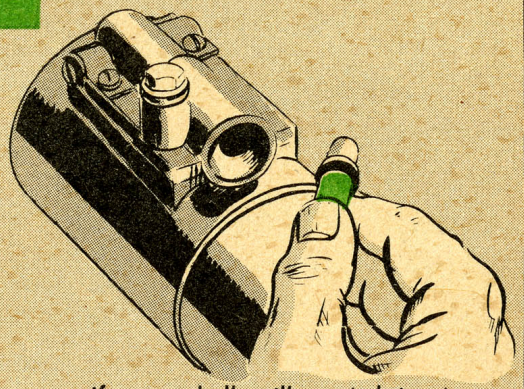
Reticle brightness is adjusted with the knob on the right of the light source. Adjust her to the brightness that gives the best image. Turning clockwise makes the reticle brighter, counter-clockwise dimmer.

9



If reticle still doesn't come in after turning the knob clockwise far as she'll go and you're getting a picture, take out and check bulb.

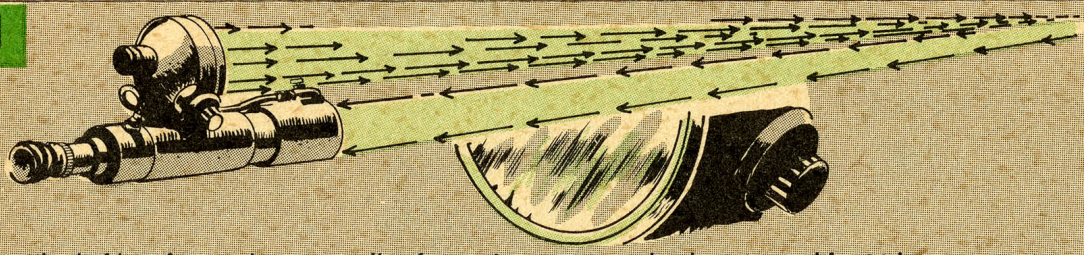
10



If a new bulb still won't bring in reticle, turn her in for repair.

LIGHT SOURCE

1

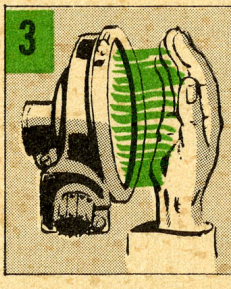


Check filter for cracks, especially if it's plastic. Remember lamp's good for 30 hours operation.

2

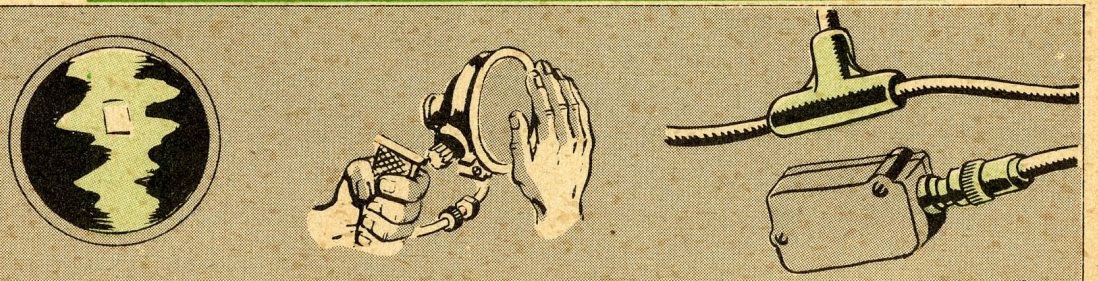
Squeeze the grip switch.

3

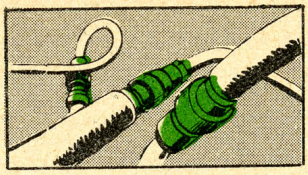


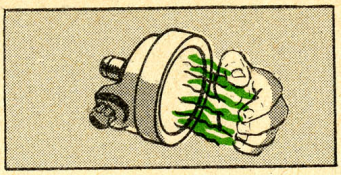
Feel if heat's coming out of light source.

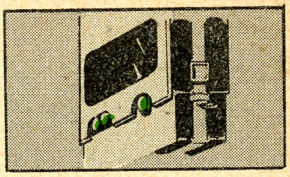
WATCH FOR THESE TROUBLES



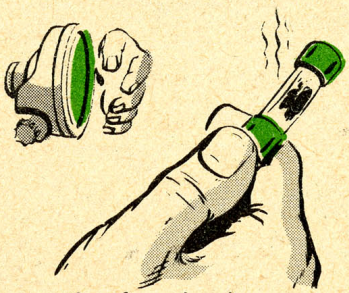
If there's an image on the scope . . . and no heat . . . could mean a loose connection, or a blown fuse.







Good connections . . bulbs and power pack working OK . . and still no image? Turn her over to the mechanic.



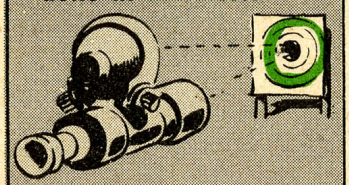
The battery and power pack are working if there's a slight hum and vibration. If you can't hear the hum when they're strapped on your back, you can feel the vibration. You get no heat and a fuse is blown in the battery, put in the spare. If the spare blows, something's snafu. See your mechanic again.

ZEROING

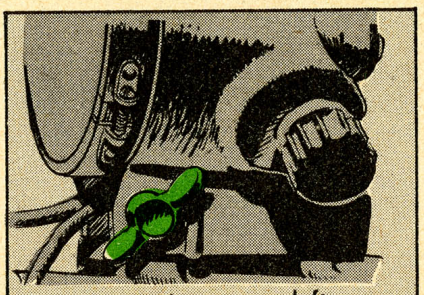
That first shot has got to count, 'specially when firing at night when you don't want the enemy to see you. So the carbine, light source, and telescope have gotta be zeroed in exactly. You can do this either in daylight or darkness.

ALINING

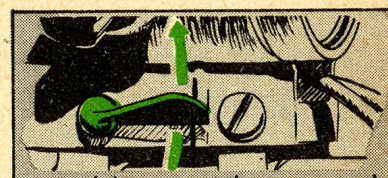
Alignment must be done in darkness.



First adjust light source.

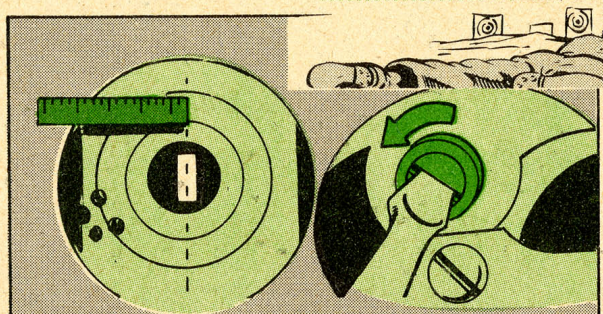


Loosen wing nut on left.

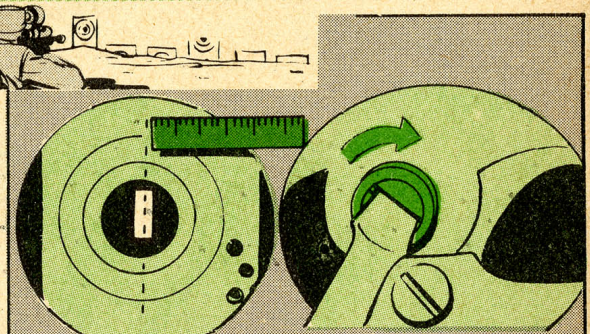


Push lever on right up to put the light source up and down to put her down until you get the best lighting. Tighten wing nut.

HORIZONTAL ADJUSTMENT

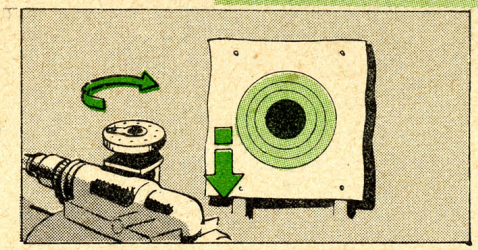


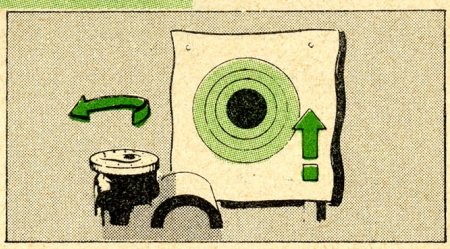
If your group is to the left, back off the hex nut and locking nut a turn so you can move the adjusting screw. Turn the screw 1/4 turn counter-clockwise for every 6 1/2 inches your shot group is to the left of center bull. After the screw is set right, tighten locking nut and hex nut.



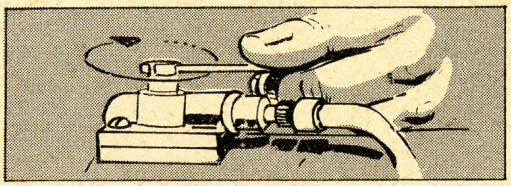
If your group is to the right, loosen hex nut and locking nut. Turn adjusting screw 1/4 turn clock-wise for every 6 1/2 inches your group is to the right of center bull. When the screw's right, tighten lock-ing nut and hex nut.

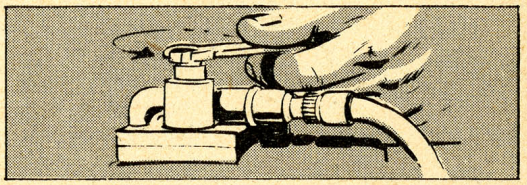
VERTICAL ADJUSTMENT





Correcting high or low shot groups is done with the reticle knob. Turn knob clockwise to lower your round—each click lowers it 8 inches. Each click counterclockwise raises it eight inches.



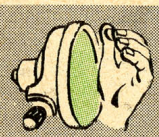


If you've got the old type screw adjustment, it takes just 1/16 of a turn to raise or lower the round eight inches.

DURING OPERATION

With everything operating right, the battery full of juice, the carbine, telescope and light source zeroed in, you're ready to use the Sniperscope.

Natch, troubles can develop during operation. Here's what to do if you're left in the dark. If she doesn't work after trying this, holler for your organizational mechanic.



NO HEAT?

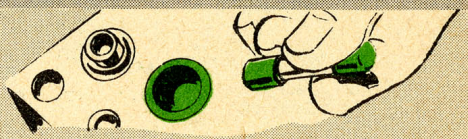
NO RETICLE?

NO IMAGE?

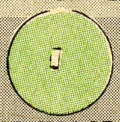
. . . REPLACE BATTERY FUSE

HEAT FROM LIGHT SOURCE

. . . BUT NO IMAGE



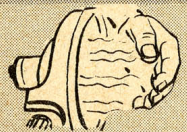
. . . REPLACE POWER PACK FUSE



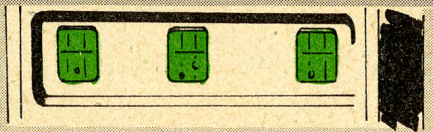
RETICLE IMAGE VISIBLE . . .

BUT NO HEAT . . .

CHECK LIGHT SOURCE CIRCUIT, CHANGE LAMP



HEAT, BUT IMAGE GETTING WORSE . . .



CHECK YOUR BALLS, BATTERY'S GOIN' . . .

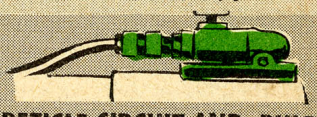
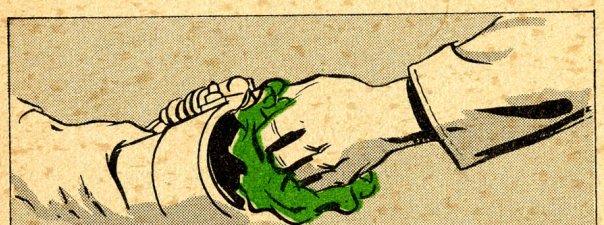


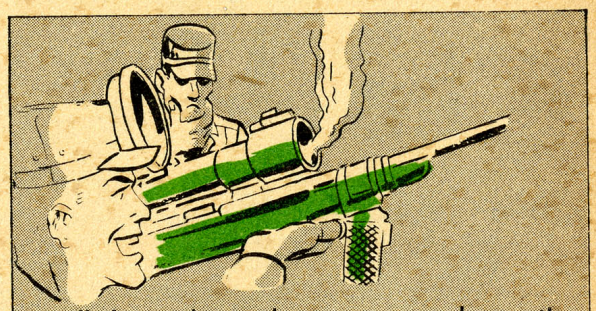
IMAGE VISIBLE, BUT NO RETICLE . . . TURN UP BRIGHTNESS KNOB. CHECK RETICLE CIRCUIT AND BULB.

AFTER OPERATION

When it's time for chow and the sack after your mission, get your Sniperscope ready for another day.

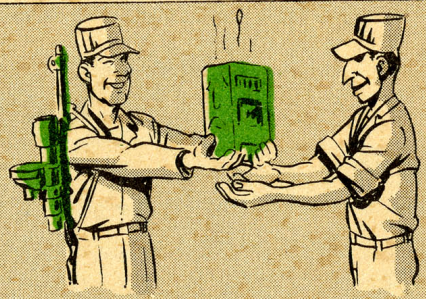


Clean the scope with a soft cloth and glass with lens tissue.



Tell the mechanic about any unusual operation or signs of trouble.

Replace used fuses. Never get caught without at least one spare fuse for the battery and one for the power pack.



Turn in battery for re-charging or draw a new one, depending on how your outfit operates.

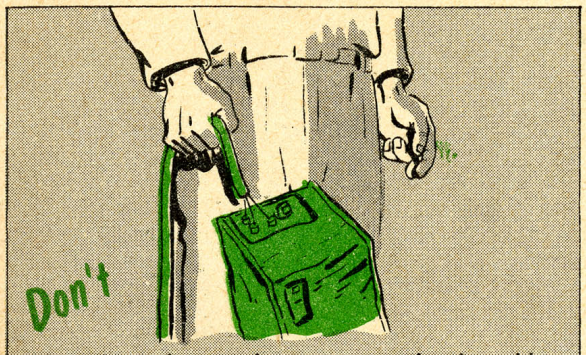
KEEP THIS CHART WHERE IT'LL BE HANDY AND BE READY FOR TROUBLE SHOOTING WITH→

TM 5-9342 P41

	1. ALINEMENT OF LIGHT SOURCE, TELESCOPE (AZIMUTH) AND RETICLE AND BORE SIGHT, IF POSSIBLE.	2. TURN ON CONTROLS. POSITIVE OPERATION OF LIGHT SOURCE, ELECTRONIC TUBE AND RETICLE. — HEAT RADIATION FROM THE LIGHT SOURCE WHEN SWITCH IS ON WILL TELL YOU IF THE SOURCE LAMP'S WORKING.	3. EXTERIOR INSPECTION OF CABLES AND CONNECTIONS.	4. DESICCATOR (FOR DRYNESS). IF DESICCANTS BLUE, SHE'S OKAY IF PINK OR WHITE, REPLACE.	5. BATTERY CHARGE, FUSES, AND LIQUID LEVEL.	6. WITH POWER SWITCH ON, YOUR POWER PACK HUMS.	7. FILTER (WATCH CRACKS WHICH MIGHT LEAK VISIBLE LIGHT).	8. AFTER GOING IN RAIN, SNOW, OR FOG, WIPE DRY WITH SOFT CLOTHS OR PAPER TISSUE. USE ONLY LENS TISSUE ON THE LENSES OF THE TELESCOPE.
BEFORE	✓	✓	✓	✓	✓	✓		
DURING		✓	✓			✓	✓	
AFTER		✓	✓	✓	✓			✓

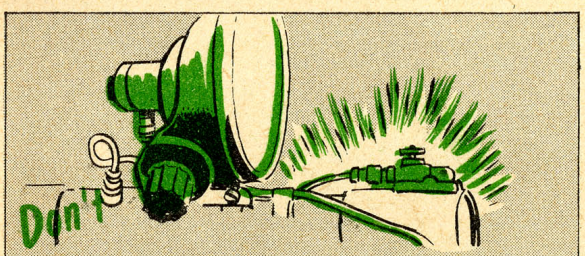
DON'TS

Prevent breakdowns and blackouts by not doing these:



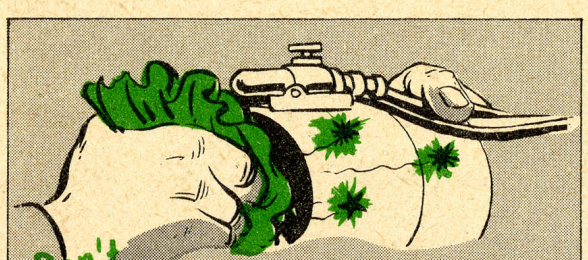
Carry the carbine and carrying case by the cable.

Use light source any more than is necessary. Save that battery.

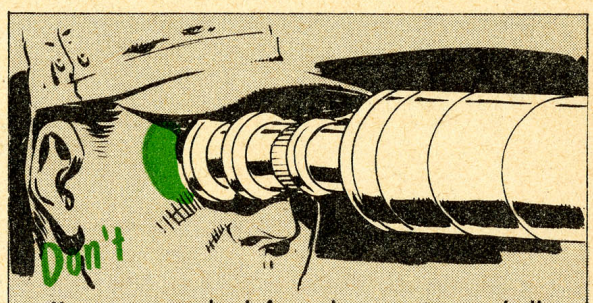


Scrape the black off the scope and cause shiny spots. Might cause a glint that's visible at night.

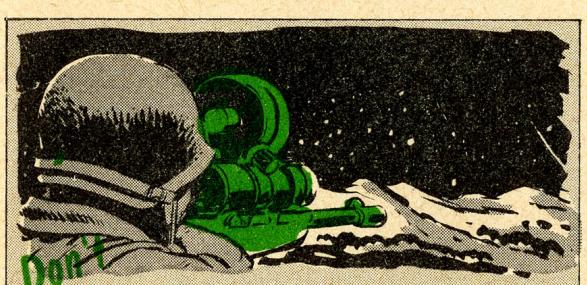
Get battery acid on you or your clothes.



Use rough cloth on lenses.



Keep your eye back from the eye-piece and allow scope light to illuminate your face.



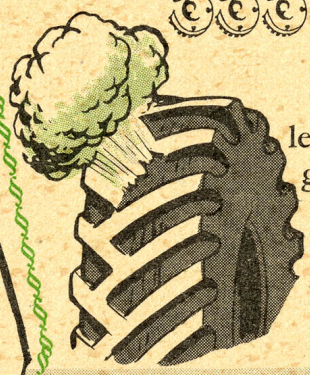
Fail to look through scope at night before turning on light source. The enemy may be using infrared.

LITTLE REMINDER ABOUT WEATHER

YOUR SNIPERSCOPE LESS BATTERIES CAN OPERATE AT 65° BELOW ZERO, AND UP TO 140° F. **BUT** . . . IN COLD WEATHER IT'S ONLY EFFECTIVE DOWN TO ZERO ON ACCOUNT OF THE BATTERIES . . . SO KEEP 'EM **FULL** AND **CHARGED UP** IN COLD WEATHER.

On Earthmover Tires You Gotta Have —

Rubber Insurance

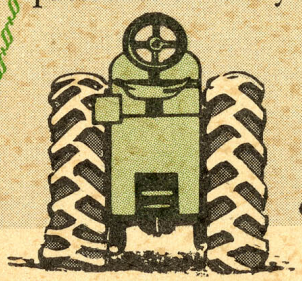


Check your tires before you take off. More little problems pop up because of carelessness. And little problems grow into big 'uns.

Yep, those big tires on heavy Engineer equipment are mighty important. It's surprising what a little time well spent can do to lengthen the life of a tire. And good common sense pays off, too.

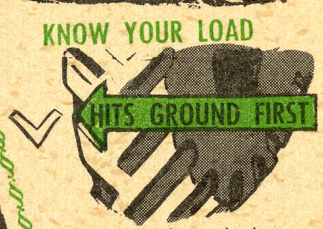
Wrong tire pressure is the worst enemy of those big black rubber doughnuts. Get too much air in 'em and you'll damage the cords. This'll make 'em pushovers for blowouts. When they're underinflated, that gives you uneven tread wear, cracks in the sidewall, ply separation and loose or broken cords. It only takes a minute to check pressures before you start operating.

RIGHT TIRE PRESSURE?



Be sure you know what the tire pressure is and the speed and load carried for the piece of equipment you're handling. Take a gander at the TM or the nomenclature plate that's attached to the dozer, shovel, crane, or whatever it might be.

"V for Victory" is a good motto to remember when mounting tires. The tread on most heavy equipment is directional. The point of the "V" has to be turned so it hits the ground first when you roll forward. That way, the tire will give better traction and clean itself as it rolls through mud, sand, gravel and muck.



KNOW YOUR LOAD

But the right mounting is only the beginning to a successful job. Take a squint at that rubber every day. You gotta keep your eye peeled for cuts and breaks. And if you see anything sticking in the tire, pull it out before it works through. When you find deep cuts, then's the time to get 'em repaired, but quick.

CHECK DAILY FOR FOREIGN MATTER

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HITS GROUND FIRST

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CHECK DAILY FOR FOREIGN MATTER

Here's a good tip to remember on cuts that extend into the cord plies. They should be beveled—or cut—out in cone shape. This'll keep stones and other articles from wedging in the cuts and causing further damage to the tire when it's in motion.

BEWARE OF GREASE AND OIL

BEVEL CUTS

Oil and grease are also tire enemies and should be wiped off immediately with a rubber solvent or white gasoline. Don't use gas with lead, though, 'cause this type will eat away at the rubber and cause it to deteriorate.

KEEP VALVE CAPS ON

REPLACE LEAKING VALVE CORES

Giving those heavy equipment tires a lot of attention is a smart idea. Inspect them often for loss of air pressure or damage, because punctures and slow leaks can happen any time. And remember to keep those valve caps on the tubes. They prevent dirt from getting into the valve. Also replace valve cores when they show signs of leaking.

If you keep these things in mind, your tires will not only last a long time, but will also give you a steady—and safe—performance. When you take time to make that frequent inspection, you're not only preserving the life of your tires, but you're also helping keep operating costs low.

GIVE 'ER THE GAS(OLINE)

Don't worry. Your eyes aren't playing tricks on you, but you probably think so when you take a gander at item 4 on page 118 of SB 5-70,(21 Dec 55.)The SB goofed in listing that particular item as a Supreme Model TE-63A Compressor, electric-motor-driven. That's right . . . there ain't no such animal.

That particular compressor is driven by a 1¾-HP Model 9 Briggs and Stratton gasoline engine and not an electric job. The Supreme Compressor was a logistical gain by the Corps of Engineers from Ordnance under SR 750-51-131. It carried an Eng Stock No. of 66-3213.006.850 before being refined to FSN 1310-376-7103.

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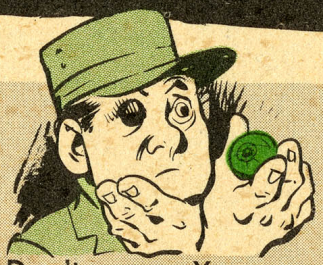

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BOOSTER

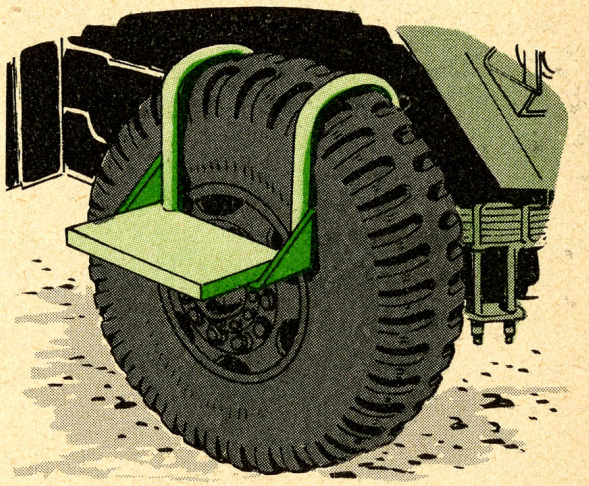
Dear Editor,

A couple of our guys almost broke their necks trying to shimmy up the sides of our 2½- and 5-ton trucks to get at the engines. Takes a lot of fancy foot-work, and all it takes to land a guy flat on his back is a mis-step.

So, a couple of us got together and thought up this little booster. It's just a step that'll fit over the front tire but on which a guy can get a solid foothold to get up on the fender when he goes to get at his engine.

You can make the thing out of scrap iron. Fashion it to the size of the tire —either on the deuce-and-a-halves or the 5-ton. Gives a guy a feeling of security when he knows he's not going to be walking on air.

SFC Trent Russo
New York National Guard



(Ed Note—Very good idea, Sergeant, especially if you're having accidents of this kind. No doubt you've taken this idea to your CO, who has given it his best wishes. Any commander would welcome an idea of this sort, seeing that AR 385-10, para e, (12 Mar 53) makes him responsible for the safety standards of his outfit. This responsibility lets him put into effect those ideas which will make his command hazard-free.)

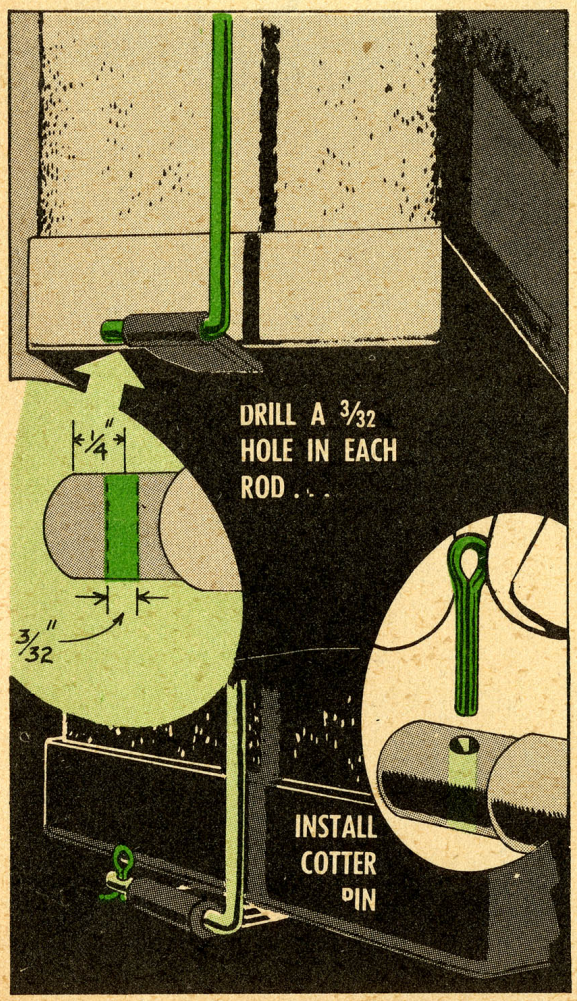
HOLD THOSE RODS

Dear Editor,

Anyone who's ever cleaned or changed a battery on an M38A1 Jeep knows what a headache those hold down rods (bolts) can be.

With the battery in place, you start with the hold down frame, jiggle the bolts a bit to get 'em in the loops on the frame, and — oops — one wiggles loose from its anchor loop at the bottom of the battery carrier. Then you've just about got to pull the battery, re-set the rod, and start all over. NUTS!

Here's a simple little idea that eliminates all this wasted time and effort.

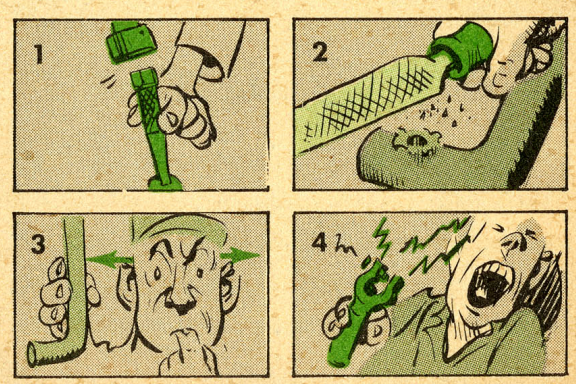


Take a 3/32-inch drill (from the organizational tool set) and put a hole 1/4 inch from the bottom end of each rod. Then install the rod and install a cotter pin in the hole. Now that rod will stay put—for keeps.

SP3 Robert I. Wingate
Fort Devens, Mass.

Ed Note—Careful handling ***should*** *keep those bolts anchored;* ***but****, if and when the slipping trouble starts, your fix is a good way to cut it short.*

And here are a couple of extra pointers to make a neat job: (1) Use a center punch to get started, and make that hole straight—it should be parallel with the length of the rod; (2) Take a file and knock off the sharp edges the drill leaves on the rod—may save somebody a punctured finger; (3) When placing the rods back in the carrier loops, make sure you face 'em the right way—put 'em in wrong and you won't discover the error till y'start to replace the hold-down frame . . . tch, tch; (4) When handling the battery cables, keep in mind the negative (ground) cable always comes off ***first*** *. . . and goes back on* ***last.****)*



PLUG THAT HOLE

Dear Editor,

I've come up with a trick that helps our new men lube the front and rear differentials on the G749-Series trucks.

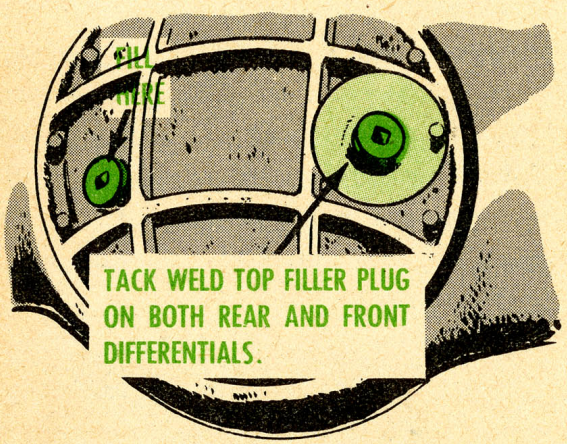
Seeing's how TM 9-8024's are in short supply, the men didn't always follow the correct procedure in filling the differential housings.

They pumped the grease in the top hole and watched the lower hole to see when the oil reached the full level.

Trouble was, a lot of the gear oil piled up on the differential-carrier-assembly until the truck warmed up. That gave us an over-full housing. Pressure built up . . . bam went the wheel seals . . . and the truck was deadlined.

Here's our solution: Tack-weld the top filler plug. The trainees soon catch on.

Sgt G. O. Wedl
Fort Dix, N. J.



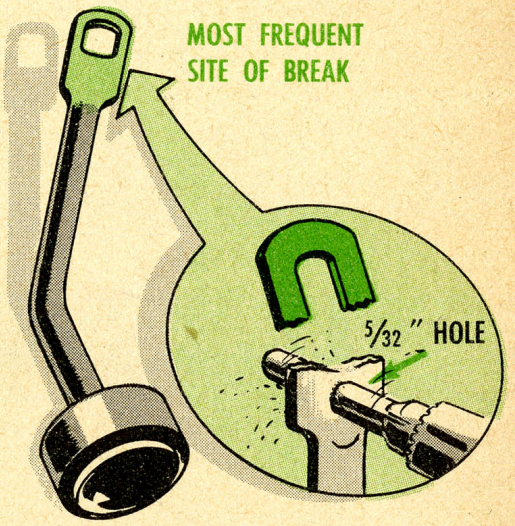
(Ed Note—You ran into an old problem with new men. You can avoid another over-full problem by filling the housing to the plug level when using warm oil and to one-half inch below the plug when filling with cold oil.)

DOOR CHECK CHECK

Dear Editor,

We found a way to keep our G742 2½-ton trucks out of Ordnance shops for replacement of broken door checks (Ord Stock No. G742-7373288).

Just take the door check out, file off the broken eyelet and drill a 5/32-in hole in the top of the remaining shoulder.



This smaller hole gives greater support than the old, broken eyelet did and saves many doors and just as many rear view mirrors.

Of course, your door won't open to a full 90 degrees now—only to about 88 degrees. But this small difference sure won't stop any one from getting into or out of that truck.

Lt F. J. Hey, Jr.
Fort Leonard Wood, Mo.

(Ed Note—Sure looks like a fine idea to us, Lieutenant, especially if those door checks are busting on you. This way you'll be able to keep that truck in the field instead of in an Ordnance repair shop waiting for a new door check.)

It's red

No snafus on color coding for gun cable receptacles in the M3A1 system (120-mm guns). Coupla manuals got different stories on it. Ch 1 to TM 9-649 (May 52) has the right dope. Those gun cables are color-coded red.

More able cable

Power measurements of the acquisition magnetron on the T/M33 FCS with ME-51/UP are tough with cable CG-257/U 10 DBM loss because the difference in the first and second readings is in **tenths** of milliwatts. Make it easier and more accurate by using cable CG-257/U 1.25 DBM loss. With it, the difference in the first and second readings is in milliwatts.

L— not AA

Never judge grease by the fittings on the electric motors used with the 90-mm and 120-mm antiaircraft guns. Those bearing fills look like they'll take GAA. But, like the LO says, the stuff to use is GL (aircraft and instrument grease.) QMC Stock No. 14-G-1384-1 will put a one-pound can in your supply room.

New head for old one

The Ordnance people want those worn-out head assemblies from the M20 series periscopes. So don't throw 'em away when they go out of whack—like a broken or warped mirror. Send your head back to Ordnance...then requisition a new one.

Bogie TP change

Organizational and Ordnance Maintenance manuals for 90-mm M2 guns have different things to say about bogie 14x24 tire pressure. The lab boys are hard at work on where to use what tire pressure. The scoop'll be put in your TM. Until then, make bogie tire pressure 75-PSI. Check pressure when your tires are cool.

Store this

Can't say it too often—when you clean out that crankcase-ventilator-valve (Donaldson valve) on your M-series wheeled vehicles, don't forget to also clean out all connecting tubes and lines. Every six months or 6,000 miles, you know, and you'll get a freer breathing vehicle.

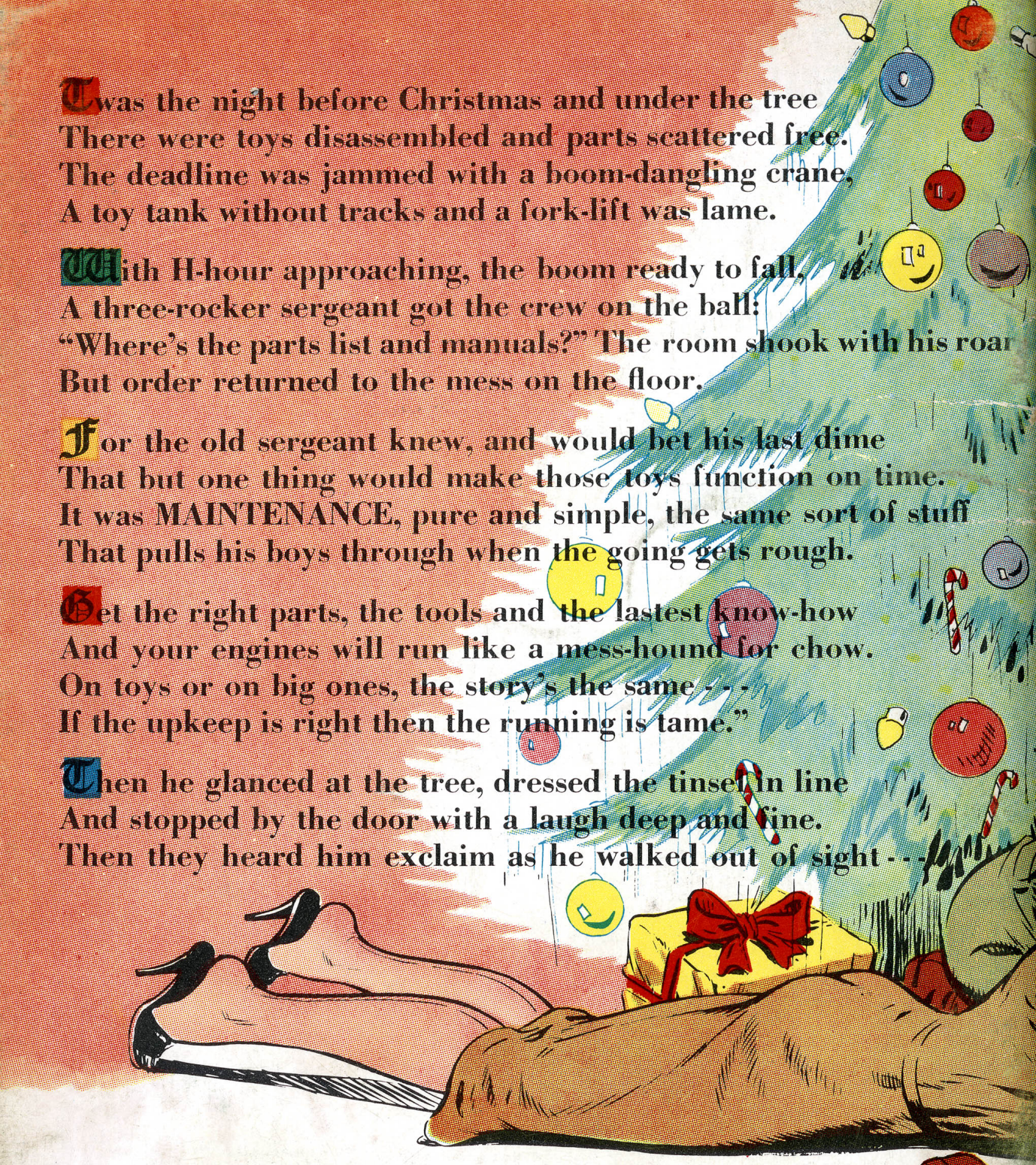
'Twas the night before Christmas and under the tree
There were toys disassembled and parts scattered free.
The deadline was jammed with a boom-dangling crane,
A toy tank without tracks and a fork-lift was lame.

With H-hour approaching, the boom ready to fall,
A three-rocker sergeant got the crew on the ball:
"Where's the parts list and manuals?" The room shook with his roar
But order returned to the mess on the floor.

For the old sergeant knew, and would bet his last dime
That but one thing would make those toys function on time.
It was MAINTENANCE, pure and simple, the same sort of stuff
That pulls his boys through when the going gets rough.

Get the right parts, the tools and the lastest know-how
And your engines will run like a mess-hound for chow.
On toys or on big ones, the story's the same - - -
If the upkeep is right then the running is tame."

Then he glanced at the tree, dressed the tinsel in line
And stopped by the door with a laugh deep and fine.
Then they heard him exclaim as he walked out of sight - - -



"Merry Christmas to all - - -

And Lube Them Toys Just Right"